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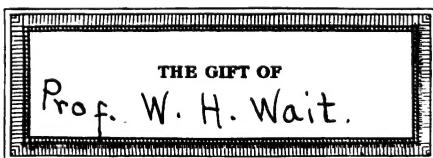
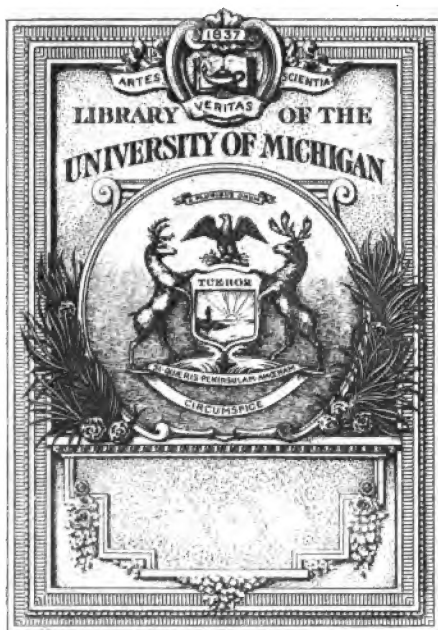
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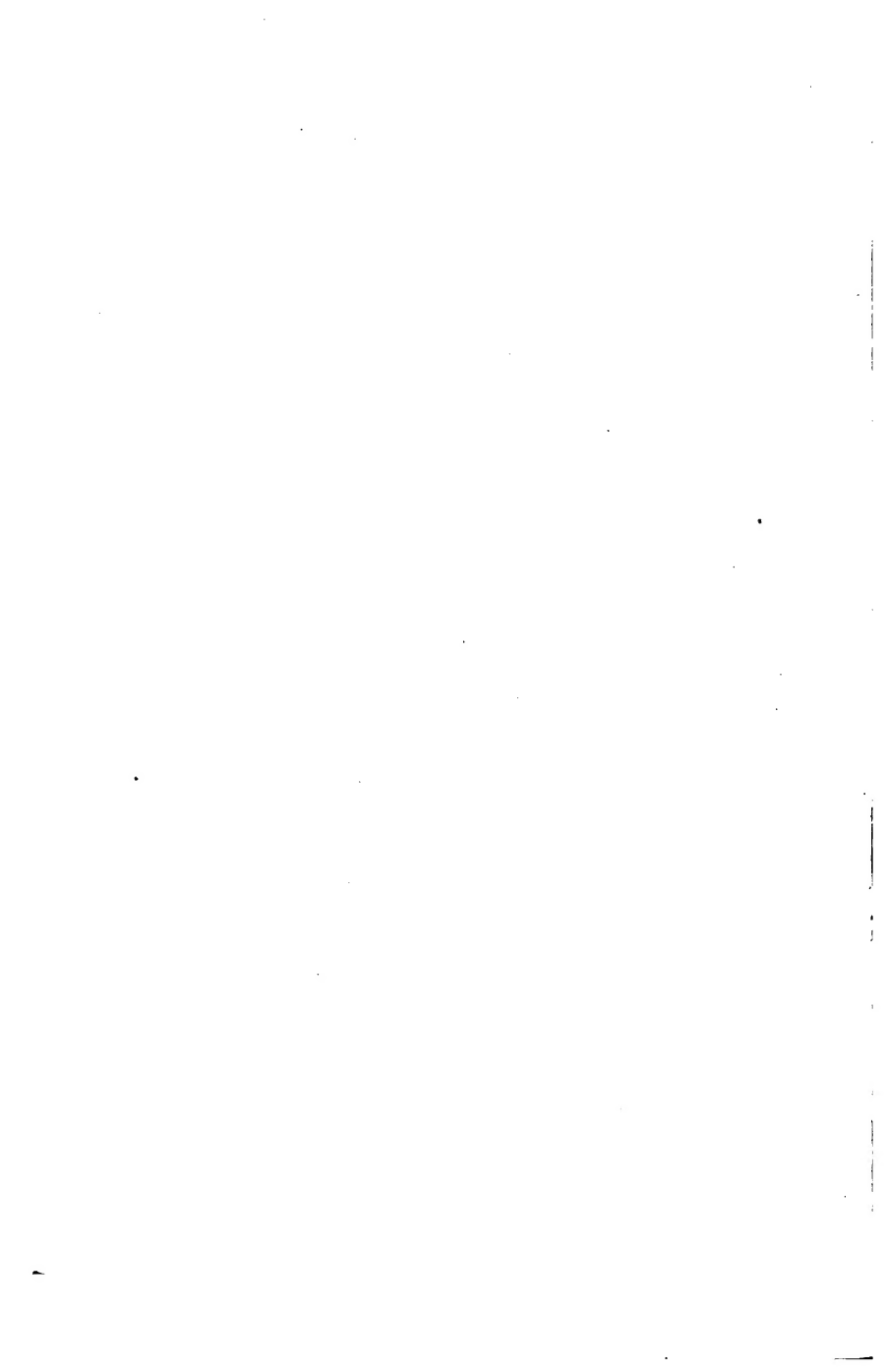
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EXAMINATION PAPERS.

COLLECTED AND ARRANGED

BY

F. B. STEVENS.



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### NOTE.

THIS book is published for the convenience of teachers and pupils in preparatory schools, and may profitably be used as a text-book for review. It contains a complete set of papers used at the regular entrance examinations since 1876, when the present system of written examinations was fully established, together with eight consecutive entrance papers of the Sheffield Scientific School.

The papers used hereafter will be added from year to year.

**ACADEMICAL DEPARTMENT.**

# REQUIREMENTS FOR ADMISSION.

(ACADEMICAL DEPARTMENT.)

1883-84.

**Higher Arithmetic :** Including the metric system of weights and measures.

**Algebra :** So much as is included in Loomis's Treatise, up to the chapter on Logarithms.

**Geometry :** Euclid, book first, and the first 33 exercises thereon in Todhunter's edition; or, the first four books in other geometries, with the above exercises.

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**Latin Grammar.**

**Cæsar :** Four books of the Gallic war, or two books of the Civil war.

**Cicero :** Seven Orations.

**Vergil :** Bucolics, and first six books of the Æneid, including Prosody.

**Ovid :** Metamorphoses, 2500 lines.

The translation, at sight, of passages from Cicero or Cæsar.

The translation into Latin of a connected passage of English prose. [As special importance will be given to this part of the examination, it is suggested to teachers that they connect exercises in making Latin, both oral and written, with all the Latin studies of the preparatory course.]

**Roman History :** Creighton's Primer of Roman History is suggested as indicating the amount required.

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**Greek Grammar.**

The translation of English into Greek.

**Xenophon :** Anabasis, four books.

**Homer :** Iliad, three books, with Prosody.

The translation, at sight, of a passage from some work of Xenophon.

**Greek History.**

The rules for pronunciation given in Hadley's Grammar are recommended as a guide. For Greek History, Dr. Wm. Smith's or Fyffe's text-book; and for Greek Composition, Jones's Exercises or White's Lessons are suggested.

# ENTRANCE EXAMINATION PAPERS.

## ARITHMETIC.

1876.

1. Add  $\frac{3}{4}$  of  $3\frac{1}{2}$  to  $\frac{2}{7}$  of  $\frac{18\frac{1}{2}}{15\frac{1}{4}}$  of  $\frac{2}{10}$ .
2. Reduce one-third of a farthing to the decimal of a pound.
3. What is the cost of 0.33 bbl. of wine at \$1.15 per pint?
4. (a) Divide 0.314 by 1.785.  
(b) Multiply 0.785 by 0.0191.
5. Extract the square root of  $\frac{1}{8}$  to four decimal places.
6. Extract the cube root of 18.65 to two decimal places.
7. If  $12\frac{1}{2}$  yds. of silk that is  $\frac{3}{4}$  yd. wide will make a dress, how many yards of muslin that is  $1\frac{3}{8}$  yds. wide will be required to line it?
8. If a person steps  $0.8^m$  at each step, how many steps will he take in walking around a rectangular field, which contains  $1080^h$ , and whose breadth is  $1800^m$ ?

1877.

1.  $\frac{7\frac{3}{4}}{9\frac{7}{8}}$  of  $\frac{5}{8}$  of  $\frac{3}{8}$  ft. (long measure) equals what decimal of a rod?
2. Multiply 3.15 by 0.075, and extract the square root of the product to three decimal places.

3. Divide 3.15 by 0.075, and extract the cube root of the quotient to two decimal places.

4. How much would \$350 amount to in 7 years, at 6 per cent, compound interest?

5. What weight of water (in kilograms) may be contained in a cistern 1.75<sup>m</sup> long, 1.3<sup>m</sup> broad, and 0.8<sup>m</sup> deep?

## 1878.

1. Add  $\frac{31}{67}$  to  $\frac{5}{8}$  of  $\frac{12}{5}$  of  $\frac{2}{3}$  of  $(\frac{3}{4} - \frac{1}{7})$ .

2. Multiply 903.14 by 0.063, and extract the square root of the product to three decimal places.

3. Divide 6 by 0.089, and extract the cube root of the quotient to two decimal places.

4. What is the value, at \$4500 per acre, of a piece of ground containing 30 rds. 19 ft. 89 in.?

5. How many liters in a box 1.2<sup>m</sup> long, 8<sup>cm</sup> wide, and 50<sup>mm</sup> deep?

## 1879.

1. Divide  $\frac{1}{3}$  of  $\frac{2}{7}$  of  $\frac{8}{9}$  by  $\frac{4\frac{5}{6}}{7\frac{3}{4}}$ , and add the quotient to  $\frac{5}{8}$ .

2. Extract the square root of  $0.875 \div 2.63$  to three decimal places.

3. Multiply 2.49 by 22.32, and extract the cube root of the product to two decimal places.

4. Reduce 0.333 A. to rods, yards, feet, and inches.

5. Multiply 17.28<sup>gr</sup> by 312,500, and give the product in kilos.

## 1880.

1. Reduce to a common denominator and add  $\frac{3}{8} \times \frac{4}{5} \times \frac{5}{9}$ ,  $\frac{7}{15}$ ,  $\frac{2}{4}$ , and  $\frac{9}{10}$ .



2. Divide  $\frac{4}{6\frac{4}{7}} - \frac{1}{7}$  by  $\frac{8}{11}$ .
3. Find, to three decimal places, the value of  $\frac{1}{\sqrt{3}}$ .
4. Find the 4th term of a proportion of which the first, second, and third terms are, respectively, 3.81, 0.056, 1.67.
5. Reduce 3 R. 13 sq. rds. 8 sq. ft. to decimal of an acre.
6. (a) In a board 4<sup>m</sup> long and 0.4<sup>m</sup> wide, how many square decimeters?  
(b) Divide 2700<sup>hl</sup> by 90<sup>cl</sup>.

## 1881.

1. Divide  $\frac{3}{4}$  of  $\frac{5}{16}$  of  $\frac{8}{9}$  by  $\frac{3\frac{3}{4}}{5\frac{7}{10}}$ , and add the quotient to  $\frac{3}{4} - \frac{7}{15}$ .
2. Find  $\sqrt{\frac{1}{31}}$  to three decimal places.
3. Find, to three decimal places, the number which has to 0.649 the same ratio which 58 has to 634.
4. A man bought a piece of ground containing 0.316 A. at 53 cts. a square foot; what did he pay for the piece?
5. A grocer buys sugar at 18 cts. a kilo, and sells it at 1ct. per 50<sup>g</sup>; how much per cent does he gain?

## 1882.

1. Find the value of  $\frac{3\frac{1}{2}}{5\frac{2}{10}}$  of  $\frac{3}{4}$  of an acre at \$1.36 per square foot.
2. Divide 3.63 by 2.353, and find the square root of the quotient to three decimal places.
3. Find a fourth proportional to 3.75, 0.23, and 0.16.
4. (a) Multiply the sum of 7<sup>km</sup>, 823<sup>m</sup>, and 125<sup>mm</sup>, by 5.12.  
(b) What is the weight in kilograms of 12<sup>hl</sup> of water?

1883.

1. Divide 82.1 by 41, 8.21 by 0.41, and 0.821 by 410. Carry the result in each case to four decimal places.

2. Find the value to three decimal places of

$$\sqrt{(0.146)^2 + (0.063)^2}.$$

3. Divide  $\frac{3\frac{2}{3} + \frac{2}{3} + 1\frac{1}{3}}{\frac{2}{3} \text{ of } 5\frac{7}{8}} \times \frac{1}{\frac{2}{3}}$  by  $\frac{133}{141}$ .

4. Some sugar is adulterated as follows:  $\frac{3}{10}$  is worth 8 cents per pound,  $\frac{4}{5}$  is worth 10 cents per pound,  $\frac{2}{10}$  is worth 12 cents per pound, and the remainder, 33 pounds, is sand. What is the mixture worth per pound?

5. Bank stock which sells at 170 pays an annual dividend of  $12\frac{1}{2}$  per cent. What rate of interest does a buyer receive?

6. Find the depth in meters of a cubical cistern which has a capacity of 30,000<sup>l</sup>. Give the result to three decimal places.

## ALGEBRA.

1876.

1. From  $3x + \frac{x}{2b}$  subtract  $x - \frac{x-a}{c}$ .
2. Multiply together  $\frac{1-x^2}{1+y}$ ,  $\frac{1-y^2}{x+x^2}$ , and  $1 + \frac{x}{1-x}$ .
3. Extract the square root of  $8ab^3 + a^4 - 4a^3b + 4b^4$ .
4. (a) From  $2\sqrt[3]{320}$  take  $3\sqrt[3]{40}$ .  
(b) Divide  $a^{-\frac{1}{2}}b^{\frac{1}{2}}$  by  $a^{\frac{1}{2}}b^{-\frac{1}{2}}$ .
5. Solve the equations :  
(a)  $x^4 + 4x^2 = 12$ ; (b)  $x^2 - x\sqrt{3} = x - \frac{1}{2}\sqrt{3}$ .
6. What two numbers are those whose sum is  $2a$ , and the sum of their squares is  $2b$ ?
7. What two numbers are those whose difference, sum, and product are as the numbers 2, 3, and 5 respectively?
8. Find three geometrical means between 2 and 162.
9. Expand to four terms, by the binomial theorem :  
(a)  $\frac{m}{\sqrt{x^2+a^2}}$ ; (b)  $(1-x^2)^{\frac{1}{2}}$ .

1877.

1. Divide  $12x^4 - 192$  by  $3x - 6$ .
2. Divide  $x^2 + \frac{x^3}{a-b}$  by  $\frac{ab}{a-b} - m$ .
3. Solve the equation  $21 + \frac{3x-11}{16} = \frac{5x-5}{8} + \frac{97-7x}{2}$ .
4. Find the product of  $a^{\frac{1}{2}}$ ,  $a^{\frac{1}{3}}$ ,  $a^{\frac{1}{4}}$ , and  $a^{-\frac{1}{2}}$ .
5. Solve the equation  $\frac{15}{x} - \frac{72-6x}{2x^2} = 2$ .
6. Find six arithmetical means between 1 and 50.

7. How many different combinations may be formed of eight letters, taken four at a time?

8. Expand  $(a-b)^{-1}$  to four terms by the binomial theorem.

### 1878.

1. A sum of money, put out at simple interest, amounts in  $m$  months to  $a$  dollars, and in  $n$  months to  $b$  dollars. Required the sum and rate per cent.

2. Find the sum of  $\sqrt{45c^3}$ ,  $\sqrt{80c^3}$ ,  $\sqrt{5a^2c}$ .

Find the product of  $5a^{\frac{1}{2}}$ ,  $3a^{\frac{1}{3}}$ ,  $2a^{-1}$ .

Find the cube root of  $\frac{a}{3}\sqrt{\frac{a}{3}}$ .

3. Solve the equation,

$$\sqrt{1+x-x^2} - 2(1+x-x^2) = \frac{1}{3}.$$

4. What do you mean by the expression "A varies as B"?

How can you convert the expression  $A \propto B$  into an equation?

5. Find the sum of the series

$$\frac{1}{10} + \frac{1}{100} + \frac{1}{1000} + \dots, \text{ ad infinitum.}$$

6. Give the formulæ for finding respectively the number of permutations (or arrangements) and the number of combinations of  $m$  things taken  $n$  at a time.

7. Write the binomial formula. Calculate with it the square root of 2501 to six places of decimals.

8. Transform into a form convenient for numerical calculation the expression,

$$\log \left( \frac{a^m b^n}{c^p} \right)^{\frac{1}{q}}.$$

9. Given  $\log a = 1.2345$ , to find  $\log \sqrt[3]{a}$ .

## 1879.

1. Divide  $(3a - b)$  by  $a + b + \frac{a - b}{1 + \frac{a - b}{a + b}}$ , and simplify.
2. (a) Find the sum and difference of  $\sqrt{18a^5b^3}$  and  $\sqrt{50a^3b^3}$ .  
 (b) Multiply  $2\sqrt{3} - \sqrt{-5}$  by  $4\sqrt{3} - 2\sqrt{-5}$ .
3. Solve the equation,  

$$\frac{x-1}{7} + \frac{23-x}{5} = .7 - \frac{4+x}{4},$$
4. Solve the equation,  

$$\frac{x-3}{x-2} - \frac{x-4}{x-1} = \frac{7}{20}.$$
5. The sum of an arithmetical progression, whose first term is 2 and last term 42, is 198; find the common difference and the number of terms.
6. Expand to four terms, by the binomial theorem,  $(a^3 - b)^{\frac{1}{2}}$ .

## 1880.

1. (a) Divide  $\frac{a+1}{a-1} + \frac{a-1}{a+1}$  by  $\frac{a+1}{a-1} - \frac{a-1}{a+1}$ , and reduce the quotient to its simplest form.  
 (b) Find the greatest common divisor of  
 $x^4 - 6x^3 - 8x - 3$  and  $4x^3 - 12x - 8$ .
2. (a) Find the sum of  $6\sqrt[6]{4a^3}$ ,  $2\sqrt[3]{2a}$ , and  $\sqrt[9]{8a^3}$ .  
 (b) Reduce to its simplest form the product,  
 $(x-1-\sqrt{-2})(x-1+\sqrt{-2})(x-2+\sqrt{-3})(x-2-\sqrt{-3}).$

3. Solve the equations,

$$(a) \frac{1}{5}(2x-10) - \frac{1}{11}(3x-40) = 15 - \frac{1}{5}(57-x);$$

$$(b) x-1 + \frac{2}{x-4} = 0;$$

$$(c) \frac{x}{x^2-1} = \frac{x^2+1}{x}.$$

4. Four numbers are in arithmetical progression: the product of the first and third is 27, and the product of the second and fourth is 72; what are the numbers?

5. By the binomial theorem, expand to four terms,

$$(a) (1-b)^{-3}; \quad (b) (x^2-y^2)^{\frac{1}{2}}.$$

#### 1881.

1. Free from negative exponents  $(4a^{-3}b^2x^{-4})^{-4}$ .

2. Reduce to lowest terms  $\frac{x^2-2x-15}{x^2+10x+21}$ .

3. Factor  $n^3-2n^2+n$ ,  $x^3-1$ ,  $x^3-n^3y^3$ ,  $x^6+y^6$ .

4. Make denominator rational of  $\frac{2}{\sqrt{5}-\sqrt{2}}$ .

5. Multiply  $\sqrt{x-2} + \sqrt{-3}$  by  $\sqrt{x+2} - \sqrt{-3}$ .

6. Solve  $\frac{5}{x} - \frac{3x+1}{x^2} = \frac{1}{4}$ .

7. Solve  $\begin{cases} x^2 - xy = 153. \\ x + y = 1. \end{cases}$

8. By the binomial theorem, expand to four terms  $\frac{1}{\sqrt{n-x^2}}$ .

9. Sum the infinite series  $1 + \frac{1}{2} + \frac{1}{4} + \dots$

#### 1882.

1. Factor  $a^3 - 4a^2b + 4ab^2$ ,  $4x^4y^4 - 9x^2y^2$ .

2. Solve  $x^2 = 21 + \sqrt{x^2 - 9}$ .

3. Find the continued product of

$$\frac{x - (2 + \sqrt{3})}{x - (3 - \sqrt{-1})}, \quad \frac{x - (2 - \sqrt{3})}{x - (3 + \sqrt{-1})}.$$

4. Divide 50 into two parts, such that the greater, increased by 3, shall be to the less, diminished by 3, as 3 to 2.

5. Given  $\begin{cases} x^2 + y^2 = 25 \\ 2xy = 24 \end{cases}$ ; find  $x$  and  $y$ .

6. Sum the infinite series  $1, \frac{1}{2}, \frac{1}{3}, \dots$

7. Resolve  $\frac{5x-19}{x^2-8x+15}$  into partial fractions.

8. Expand by the binomial theorem, to 3 terms,  $\frac{b}{a} \sqrt{x^2 - a^2}$ .

9. Revert the series  $y = x + x^2 + x^3 + x^4$ .

### 1883.

1. Reduce the following expression to its simplest form :

$$\frac{1}{x(x-a)(x-b)} + \frac{1}{a(a-x)(a-b)} + \frac{1}{b(b-x)(b-a)}.$$

2. Resolve  $y^3 - b^3$  into three factors.

3. Change  $xy^{-2} - 2x^{\frac{1}{2}}y^{-1}x^{-\frac{1}{2}} + x^{-1}$  to an expression which will contain no negative exponents.

4. If  $\frac{a+b+c+d}{a+b-c-d} = \frac{a-b+c-d}{a-b-c+d}$ , prove by the principles of proportion that  $\frac{a}{b} = \frac{c}{d}$ .

5. Find the value of  $2a\sqrt{1+x^2}$ , when

$$x = \frac{1}{2} \left( \sqrt{\frac{a}{b}} - \sqrt{\frac{b}{a}} \right).$$

6. Given  $(7 - 4\sqrt{3})x^2 + (2 - \sqrt{3})x = 2$ , to find  $x$ .

3. Solve the equation

(a)  $\frac{1}{2}(2x)$

(b)  $x -$

(c)  $\frac{x^2}{x^2}$

4. Four numbers  
product of the first  
second and fourth

5. By the binomial

(a)

1. Free fall

2. Reduce

3. Factor

4. Make

5. Mul

6. Sol

7. So

8. By

9. S

1.

2.



## GEOMETRY.

1876.

(EUCLID.)

1. To draw a straight line perpendicular to a given straight line of an unlimited length, from a given point without it.

2. The straight lines which join the extremities of two equal and parallel straight lines towards the same parts, are also themselves equal and parallel.

3. If a straight line be divided into any two parts, the square on the whole line and on one of the parts are equal to twice the rectangle contained by the whole and that part, together with the square on the other part.

(LOOMIS AND LEGENDRE.)

1. If a straight line, meeting two other straight lines, makes the interior angles on the same side together equal to two right angles, the two lines are parallel.

2. The radius (or diameter) which is perpendicular to a chord, bisects that chord, and also the arc subtended by it.

3. In every parallelogram, the sum of the squares of the four sides is equal to the sum of the squares of the diagonals.

(CHAUVENET.)

1. If two sides of a triangle are respectively equal to two sides of another, but the included angle in the first triangle is greater than the included angle in the second, the third side of the first triangle is greater than the third side of the second.

2. If the diagonals of a quadrilateral bisect each other, the figure is a parallelogram.

3. Through any three points, not in the same straight line, a circumference can be made to pass, and but one.

**1877.**

(EUCLID.)

1. The straight lines which join the extremities of two equal and parallel straight lines towards the same parts, are also themselves equal and parallel.

2. To divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts may be equal to the square on the other part.

(LEGENDRE.)

1. In an isosceles triangle the angles opposite the equal sides are equal.

2. In equal circles, equal chords are equally distant from the centres; and of two unequal chords the less is at the greater distance from the centre.

3. The area of a trapezoid is equal to the product of its altitude and half the sum of its parallel sides.

(LOOMIS.)

1. If two triangles have the three sides of the one equal to the three sides of the other, each to each, the three angles will also be equal, each to each, and the triangles themselves will be equal.

2. Two parallels intercept equal arcs on a circumference.

3. In any triangle, if a straight line is drawn from the vertex to the middle of the base, the sum of the squares of the other two sides is equivalent to twice the square of the bisecting line, together with twice the square of half the base.

## 1878.

(EUCLID.)

1. If a straight line falling on two other straight lines, make the exterior angle equal to the interior and opposite angle on the same side of the line, or make the interior angles on the same side together equal to two right angles, the two straight lines shall be parallel to one another.

2. To describe a parallelogram that shall be equal to a given triangle, and have one of its angles equal to a given rectilineal angle.

3. If a straight line be divided into any two parts, the squares on the whole line, and on one of the parts, are equal to twice the rectangle contained by the whole and that part, together with the square on the other part.

(LEGENDRE.)

1. If two sides of a quadrilateral are equal and parallel, the figure is a parallelogram.

2. (a) To erect a perpendicular to a given straight line, at a given point of that line.

(b) At a point on a given straight line, to construct an angle equal to a given angle.

3. In any triangle, the square of a side opposite an acute angle is equal to the sum of the squares of the base and the other side, diminished by twice the rectangle of the base and the distance from the vertex of the acute angle to the foot of the perpendicular drawn from the vertex of the opposite angle to the base, or to the base produced.

(LOOMIS.)

1. If two triangles have two sides of the one equal to two sides of the other, each to each, but the included angles unequal, the base of that which has the greater angle will be greater than the base of the other.

2. Through any three points not in the same straight line, one circumference may be made to pass, and but one.

3. The rectangle contained by the sum and difference of two lines is equivalent to the difference of the squares of those lines.

## 1879.

[Candidates for examination in Euclid may take questions 2, 3, and 5. Candidates for examination in Loomis may take questions 1, 4, and 5. Candidates for examination in Legendre may take questions 2(b), 3, and 6. Candidates for examination in other Geometries may demonstrate as many of the theorems as they can, and do the problem (3) by the methods to which they are accustomed.]

1. The opposite sides and angles of a parallelogram are equal to each other.

2. If a straight line, meeting two other straight lines,

(a) Make an exterior angle equal to an interior and opposite (or remote) angle on the same side ; or

(b) Make the interior angles on the same side together equal to two right angles, the two lines are parallel.

3. To draw a perpendicular to a given straight line, from a given point without that line.

4. Parallelograms which have equal bases and equal altitudes are equivalent.

5. If a straight line be divided into any two parts, the square of the whole line is equal (or equivalent) to the squares of the two parts, together with twice the rectangle contained by the parts.

6. The rectangle contained by the sum and difference of two lines is equivalent to the difference of the squares of those lines.

## 1880.

[Candidates who offer Euclid may take 1 and 3. Candidates who offer Loomis's Geometry or Davies's Legendre may take 1 and 4. Candidates who offer Chauvenet's Geometry may take 2 and 5. Other candidates may prove theorem 1 or 2, and do one of the problems (3, 4, and 5) by the methods to which they are accustomed.]

1. If a straight line fall on two parallel straight lines, it makes the alternate angles equal to one another, and the exterior angle equal to the interior and opposite (or remote) angle on the same side; and also the two interior angles on the same side together equal to two right angles.

2. If two parallel lines are cut by a third straight line, the alternate interior angles are equal.

Cor. I. The alternate-exterior angles are also equal to each other.

Cor. II. Any one of the eight angles is equal to its corresponding angle.

Cor. III. The sum of the two interior angles on the same side of the secant line is equal to two right angles.

3. To divide a straight line into two parts, so that the rectangle contained by the whole and one of the parts may be equal to the square on the other part.

4. To divide a given line into two parts, such that the greater part may be a mean proportional between the whole line and the other part.

5. (a) At a given point in a given circumference, to draw a tangent to the circumference.

(b) Through a given point without a given circle, to draw a tangent to the circle.

#### 1881.

[Candidates who offer Euclid may take 1, 2, and 3. Candidates who offer any other Geometry may take any four propositions of 3 to 7 inclusive. *The Candidate will please state in writing the Geometry which he offers.*]

1. To describe a parallelogram that shall be equal to a given triangle, and have one of its angles equal to a given rectilineal angle.

2. If a straight line be bisected, and produced to any point, the square on the whole line thus produced and the square on the part of it produced are together double of the

square on half the line bisected and of the square on the line made up of the half and the part produced.

3. A given angle BAC is bisected; if CA is produced to G, and the angle BAG is bisected, prove that the two bisecting lines are at right angles to each other.

4. If two opposite sides of a quadrilateral are equal and parallel, the other two sides are equal and parallel, and the figure is a parallelogram.

5. The rectangle contained by the sum and difference of two lines is equivalent to the difference of the squares of those lines.

6. To construct a square equivalent to a given triangle.

7. The area of a parallelogram is equal to the product of its base and altitude.

#### 1882.

[Candidates may take either 1, 2, 3, and 4, or 1, 2, 3, and 5.]

1. To draw a straight line at right angles to a given straight line from a given point in the same.<sup>1</sup>

2. In every triangle, the square on the side subtending an acute angle is less than the squares on the sides containing that angle by twice the rectangle contained by either of these sides, and the straight line intercepted between the perpendicular let fall on it from the opposite angle and the acute angle.

3. The opposite sides of a parallelogram are equal to each other.

4. Trisect a right angle.

5. From the extremities of the base of an isosceles triangle straight lines are drawn perpendicular to the sides: show that the angles made by these lines with the base are each equal to half the vertical angle.

<sup>1</sup> Make and explain the construction as well as prove it.

1883.

[Candidates who offer Euclid may take 1, 2, and 5. Other candidates may take 1, 3, 4, and 5.]

1. At a given point in a given straight line to construct an angle equal to a given angle.

2. If a straight line be bisected and produced to any point, the rectangle contained by the whole line thus produced, and the part of it produced, together with the square on half the line bisected, is equal to the square on the straight line which is made up of the half and the part produced.

3. The diagonals of a parallelogram bisect each other.

4. To construct a triangle equivalent to a given polygon.

5. If the straight lines bisecting the angles at the base of an isosceles triangle be produced to meet, they will contain an angle equal to an exterior angle of the triangle.

## LATIN GRAMMAR.

## 1876.

[In writing Latin words, mark the quantity of the penult in each.]

1. Give the genitive plural of *miser*, *lex*; the ablative singular of *portus*, *litus*, *senex*; and the nominative singular of *frigoribus*, *nives*, *sidere*, *tramite*, *rores*.

2. Write out in full the declension of *caput*, *movens*, *qui*.

3. Compare *facilis*, *parvus*, *bene*, *male*.

Distinguish between *decem*, *decimus*, *deni*, *decies*.

4. Give all the participles of *vereor*, and the perfect and supine of *intelligo*, *fundo*, *veho*.

What compounds of *lego* have *xi* in the perfect?

5. Write the synopsis of *ago* in the third person singular, indicative and subjunctive active.

6. Write out in full the present indicative of *possum*, the present subjunctive of *volo* and *eo*, and the future indicative active of *curro* and *moveo*.

What forms of *eo* are used in the passive voice?

7. Write the principal parts of *cado*, *caedo*, *cedo*, and give the meaning of each verb.

8. To what classes do the conjunctions *si*, *et*, *at*, *aut*, *nam*, *autem*, and *quamquam* belong?

What conjunctions are enclitics?

## 1877.

[In writing Latin words, mark the quantity of the penult in each.]

1. Give the genitive singular of *quieo*, *pecus* (N.), *aequor*, *alter*, *census*; and the nominative singular of *robigine*, *ossa*, *vimine*, *grege*, *lapidum*.



2. Decline *ambo, opus, domus, ille*.
3. Compare *felix, similis, parvus, primus, vetus*.  
Write the ordinal numerals from one to ten.
4. The principal parts of the verbs from which the following forms are derived : *vivite, cedentia, ejiceram, jussus, vestit*.
5. Give the imperfect and perfect subjunctive active, and the present and perfect participle of *fero, venio, pono*.
6. Inflect the present indicative and subjunctive of *eo, fero, possum*.
7. The synopsis of *loquor* in the third person plural, indicative and subjunctive.
8. Give the different ways of expressing a purpose in Latin.

## 1878.

[In writing Latin words, mark the quantity of the penult in each.]

1. Write the genitive singular of *frigus, virus, nemus, limen*; and the nominative singular of *salutem, sitim, litore, silicis, vulnera, aethere, sulcis*.
2. Give the gender of the same nouns.
3. Write out in full the declension of *aliquis, ingens, exsul, hic*.
4. Compare *magnus, tristis, malus, nequam, proximus*.
5. The principal parts of the verbs from which the following forms are derived : *tenebat, audebat, cernimus, bibet, labatur, haerent*.
6. Inflect the future indicative active of *nosco* and *debeo*, and the present and perfect subjunctive of *morior* and *possum*.
7. Write out in full the conjugation of *fero* in the active voice.
8. What parts of the verb are formed from the perfect stem?

## 1879.

[In writing Latin words, mark the quantity of the penult in forms of more than two syllables.]

1. Decline in full *princeps*, *major*, *nullus*.

What other words are declined like *nullus*?

2. Give the ablative singular and genitive plural of *animal*, *lex*, *vir*, *nox*, *currus*, *frigus*; and the genitive singular of *caro*, *mos*, *ordo*, *cor*, *juventus*, *custos*.

3. The gender of *manus*, *sermo*, *pes*, *compes*, *fraus*.

What is the gender of nouns of the third declension ending in *l*? in *x*? in *os*?

4. Compare *fortis*, *difficilis*, *parvus*, *miser*.

Form and compare the corresponding adverbs.

5. The principal parts of the verbs from which the following forms are derived: *peteretur*, *alunt*, *praebent*, *perculsum*, *abjectum*, *canit*.

6. Inflect in the future indicative and in the present and imperfect subjunctive, *cuno*, *tueor*, *eo*.

7. Write the synopsis in the indicative and subjunctive of *volo* in the first person singular, and *loquor* in the second person singular.

8. What classes of verbs take the genitive?

## 1880.

[In writing Latin words, mark the quantity of the penult in forms of more than two syllables.]

1. Decline in full *domus*, *deus*, *plus*, *duo*.

2. The gender of *nubes*, *honor*, *dies*, *aetas*, *ratio*. Ablative singular and genitive plural of *navis*, *pars*, *princeps*.

3. Compare the adverbs *prudenter*, *fortiter*, *acriter*, *parum*. From what adjectives are they derived?

4. Give the nominative singular in full of *quisque*, *quispam*, *quisquis*; give the meaning of each. When is the interrogative *quis* used, and when *qui*?

5. The principal parts of *nanciscor*, *pasco*, *pario*, *reor*.

6. Write the synopsis of *capio* in the second person singular indicative and subjunctive active. Give the present of *jeci*, *cessi*, *novi*. From what two verbs can *tentum* come?

7. Write out in full the present indicative of *malo*, the imperative of *fero* (both voices), the nominative and genitive singular of the present participle of *eo*.

8. Explain the subjunctives in the following sentences:—

- (a) *Facerem, si juberem.*
- (b) *Utinam mortuus essem.*
- (c) *Ne quis dixerit.*
- (d) *Quis est quin videat.*
- (e) *Laudavit quia hoc facerent.*
- (f) *Petit, ut iis qui adfuerint credamus.*

#### 1881.

[In writing Latin words of more than two syllables, mark the quantity of the penult.]

- 1. Decline *homo*, *dies*, *domus*.
- 2. Decline *qui*, *hic*.
- 3. Give the synopsis in the first person singular indicative and subjunctive active of *moneo*, *capio*.
- 4. Give in full the present indicative active of *possum*, *fero*.
- 5. Principal parts of *volo*, *do*, *fio*, *nosco*, *curro*.

6. What are the different uses of the ablative case?
7. Explain the use of the modes in indirect discourse.
8. What is the stem of a noun? What kinds of stems belong to the third declension?

**1882**

[In writing Latin words of more than one syllable, mark the quantity of the penult.]

1. Give the synopsis in the third person singular indicative of *habeo*, *cipio*.
2. What is the final letter of the stem in each of the four regular conjugations?
3. Decline a neuter noun of each of the three declensions to which neuters may belong.
4. Give the nominative and genitive singular and the gender of the substantives in the following sentences; the nominative and genitive singular of all genders of the adjectives and pronouns; the principal parts of the verbs and participles. If a noun or verb is defective, or has different meanings in different forms, call attention to the fact: —
  - (a) Postquam consulatum perfecit, domum rediit.
  - (b) Milites in agrum Gallicum longo itinere duxit.
  - (c) Miror te haec tulisse.
  - (d) Quod potuimus, egimus.
5. Name and illustrate by short Latin sentences the uses of the dative case.
6. In what ways does the Latin express purpose?
7. Use of the modes and tenses in conditional sentences.
8. Explain the use of the gerundive.

## 1883.

[In writing Latin words, mark the quantity of the penult in those of more than two syllables.]

1. Decline *pars, corpus, domus*.
2. Decline *idem, qui*.
3. Give the synopsis of the third person singular indicative and subjunctive active of a verb of each of the four regular conjugations.
4. What are the tenses in common use of the verbs *memini* and *aio* respectively?
5. Under what circumstances can the dative be used to express the agent? When can relative clauses take the subjunctive?

In the following sentences tell where each word is made, with its construction or agreement; give the nominative and genitive singular and gender of each noun; the nominative and genitive singular in full of each adjective or pronoun; the comparison of any word which is in the comparative degree; the principal parts of each verb; and the reason for each instance of the subjunctive mode.

- a. *Senex ille plus quam voluit perdidit.*
- b. *In fines eorum mittebantur, ut auxilium ferrent.*
- c. *Odi profanum vulgus et arceo.*
- d. *Non vidi quid perfecisset.*

What difference of meaning would be made by the substitution of *perfecerit* in the last sentence? By the substitution of *perficeret*?

## CAESAR.

1876.

1. Translate (*B. G. II. 25*):—

Caesar ab decimae legionis cohortatione ad dextrum cornu profectus, ubi suos urgeri signisque in unum locum collatis duodecimae legionis confertos milites sibi ipsos ad pugnam esse impedimento vidit; quartae cohortis omnibus centurionibus occisis signiferoque interfecto, signo amisso, reliquarum cohortium omnibus fere centurionibus aut vulneratis aut occisis, in his primopilo Publio Sextio Baculo, fortissimo viro, multis gravibusque vulneribus confecto, ut jam se sustinere non posset; reliquos esse tardiores et nonnullos ab novissimis deserto proelio excedere ac tela vitare; hostes neque a fronte ex inferiore loco subeuntes intermittere et ab utroque latere instare; et rem esse in angusto vidit, neque ullum esse subsidium, quod submitti posset: scuto ab novissimis uni militi detracto (quod ipse eo sine scuto venerat), in primam aciem processit centurionibusque nominatim appellatis, reliquos cohortatus milites, signa inferre et manipulos laxare jussit, quo facilius gladiis uti possent.

2. (a) Explain the subjunctives.

(b) Point out the co-ordinate conjunctions.

1877.

Translate (*B. G. III. 20*):—

Eodem fere tempore Publius Crassus, cum in Aquitaniam pervenisset, quae pars, ut ante dictum est, et regionem latitudine et multitudine hominum ex tertia parte Galliae est aestimanda, cum intelligeret in his locis sibi bellum gerendum, ubi paucis ante annis Lucius Valerius Praeconinus

legatus exercitu pulso interfectus esset, atque unde Lucius Manlius proconsul impedimentis amissis profugisset, non mediocre sibi diligentiam adhibendam intelligebat. Itaque re frumentaria provisa, auxiliis equitatuque comparato, multis praeterea viris fortibus Tolosa et Narbone, quae sunt civitates Galliae provinciae finitimae his regionibus, nominatim evocatis, in Sontiatum fines exercitum introduxit. Cujus adventu cognito, Sontiates magnis copiis coactis equitatuque, quo plurimum valebant, in itinere agmen nostrum adorti primum equestre proelium commiserunt: deinde equitatu suo pulso atque insequentibus nostris, subito pedestres copias, quas in convalle in insidiis collocaverant, ostenderunt. Hi nostros disiectos adorti proelium renovarunt.

## 1878.

Translate (*B. G.* III. 26):—

Crassus equitum praefectos cohortatus ut magnis praemiis pollicitationibusque suos excitarent, quid fieri vellet ostendit. Illi, ut erat imperatum, eductis III cohortibus, quae praesidio castris relictæ intritæ ab labore erant, et longiore itinere circumductis ne ex hostium castris conspici possent, omnium oculis mentibusque ad pugnam intentis, celeriter ad eas quas diximus munitiones pervenerunt, atque his perruptis prius in hostium castris constiterunt quam plane ab his videri aut quid rei gereretur cognosci posset. Tum vero clamore ab ea parte audito nostri redintegratis viribus, quod plerumque in spe victoriae accidere consuevit, acrius impugnare coeperunt. Hostes undique circumventi desperatis omnibus rebus se per munitiones dejicere et fuga salutem petere intenderunt. Quos equitatus apertissimis campis consecutus ex milium L numero, quae ex Aquitania Cantabrisque convenisse constabat, vix quarta parte relicta multa nocte se in castra recepit.

1879.

1. Translate (*B. G. I. 38*):—

Cum tridui viam processisset, nuntiatum est ei Ariovistum cum suis omnibus copiis ad occupandum Vesontionem, quod est oppidum maximum Sequanorum, contendere triduique viam a suis finibus profecisse. Id ne accideret, magnopere sibi praecavendum Caesar existimabat. Namque omnium rerum, quae ad bellum usui erant, summa erat in eo oppido facultas, idque natura loci sic muniebatur, ut magnam ad ducendum bellum daret facultatem, propterea quod flumen Dubis ut circino circumductum paene totum oppidum cingit; reliquum spatium, quod est non amplius pedum DC, qua flumen intermittit, mons continet magna altitudine, ita ut radices montis ex utraque parte ripae fluminis contingant.

2. What kind of a pronoun is *sibi*? Construction of *sibi*, *pedum*, *altitudine*. Write the numeral represented by DC in the form here required.

3. Translate (*B. G. IV. 5*):—

Est enim hoc Gallicae consuetudinis, uti et viatores etiam invitos consistere cogant et, quod quisque eorum de quaere audierit aut cognoverit, quaerant, et mercatores in oppidis vulgus circumsistat, quibusque ex regionibus veniant quasque ibi res cognoverint, pronuntiare cogant. His rebus atque auditionibus permoti de summis saepe rebus consilia ineunt, quorum eos e vestigio poenitere necesse est, cum incertis rumoribus serviant, et plerique ad voluntatem eorum ficta respondeant.

4. To what does *hoc* refer (line 1)? What does *que* in *quibusque* connect (line 4)? Gender of *vulgus*. What use of the genitive in *consuetudinis*, *quorum*?



1880.

1. Translate (*B. G. I. 34*):—

Quamobrem placuit ei, ut ad Ariovistum legatos mitteret, qui ab eo postularent, uti aliquem locum medium utriusque colloquio diceret: velle sese de republica et summis utriusque rebus cum eo agere. Ei legationi Ariovistus respondit: si quid ipsi a Caesare opus esset, sese ad eum venturum fuisse; si quid ille se velit, illum ad se venire oportere. Praeterea se neque sine exercitu in eas partes Galliae venire audere, quas Caesar possideret, neque exercitum sine magno commeatu atque molimento in unum locum contrahere posse. Sibi autem mirum videri, quid in sua Gallia, quam bello vicisset, aut Caesari aut omnino populo Romano negotii esset.

2. Who was Ariovistus? To whom does *ei* refer (line 1)? What was the occasion of this embassy? Change *neque exercitum sine . . . negotii esset* to the oratio recta.

3. Translate (*B. G. III. 10*):—

Erant hae difficultates belli gerendi, quas supra ostendimus, sed multa Caesarem tamen ad id bellum incitabant: injuriae retentorum equitum Romanorum, rebellio facta post deditionem, defectio datis obsidibus, tot civitatum conjuratio, imprimis, ne hac parte neglecta reliquae nationes sibi idem licere arbitrarentur. Itaque cum intellegeret omnes fere Gallos novis rebus studere et ad bellum mobiliter celeriterque excitari, omnes autem homines natura libertati studere et condicionem servitutis odisse, priusquam plures civitates conspirarent, partiendum sibi ac latius distribuendum exercitum putavit.

4. What is the construction of *idem*? Upon what does *cum intellegeret* depend? Why does *cum* require the subjunctive here?

## 1881.

1. Translate (*B. G. II. 11*):—

Ea re constituta secunda vigilia magno cum strepitu ac tumultu castris egressi nullo certo ordine neque imperio, cum sibi quisque primum itineris locum peteret et domum pervenire properaret, fecerunt, ut consimilis fugae profectio videretur. Hac re statim Caesar per speculatores cognita insidias veritus, quod, qua de causa discederent, nondum perspexerat, exercitum equitatumque castris continuit. Prima luce confirmata re ab exploratoribus omnem equitatum, qui novissimum agmen moraretur, praemisit.

2. (a) Describe the *vigiliae*.

(b) Explain the subjunctives *discederent* and *moraretur*.

(c) Give the time, place, and manner of Cæsar's death.

3. Translate (*B. G. IV. 8*):—

Ad haec quae visum est Caesar respondit; sed exitus fuit orationis: "Sibi nullam cum his amicitiam esse posse, si in Gallia remanerent; neque verum esse, qui suos fines tueri non potuerint, alienos occupare; neque ullos in Gallia vacare agros, qui dari tantae praesertim multitudini sine injuria possint; sed licere, si velint, in Ubiorum finibus considerare, quorum sint legati apud se et de Suevorum injuriis querantur et a se auxilium petant: hoc se Ubiis imperaturum."

## 4. (a) Change the words of Cæsar to direct discourse.

## 1882.

1. Translate (*B. G. I. 36*):—

Ad haec Ariovistus respondit: "Jus esse belli, ut, qui vicissent, iis, quos vicissent, quemadmodum vellent, imperarent: item populum Romanum victis non ad alterius praescriptum, sed ad suum arbitrium imperare consuesse. Si ipse populo Romano non praescriberet, quemadmodum

suo jure uteretur; non oportere sese a populo Romano in suo jure impediri. Aeduos sibi, quoniam belli fortunam tentassent et armis congressi ac superati essent, stipendarios esse factos. Magnam Caesarem injuriam facere, qui suo adventu vectigalia sibi deteriora faceret. Aeduis se obsides redditurum non esse, neque iis neque eorum sociis injuria bellum illaturum, si in eo manerent, quod convenisset, stipendiumque quotannis penderent: si id non fecissent, longe iis fraternum nomen populi Romani abfuturum. Quod sibi Caesar denuntiaret se Aeduorum injurias non neglecturum; neminem secum sine sua pernicie contendisse. Cum vellet, congregaretur; intellecturum, quid invicti Germani, exercitissimi in armis, qui inter annos quatuordecim tectum non subissent, virtute possent."

2. Change the speech to direct discourse.

3. Translate (*B. G.* III. 16):—

Quo proelio bellum Venetorum totiusque orae maritimae confectum est. Nam cum omnis juvenus, omnes etiam gravioris aetatis, in quibus aliquid consilii aut dignitatis fuit, eo convenerant; tum navium quod ubique fuerat, unum in locum coëgerant: quibus amissis reliqui neque quo se recipe-rent neque quemadmodum oppida defenderent, habebant. Itaque se suaque omnia Caesari dediderunt. In quos eo gravius Caesar vindicandum statuit, quo diligentius in reli-quum tempus a barbaris jus legatorum conservaretur. Itaque omni senatu necato reliquos sub corona vendidit.

4. How long and by what authority was Cæsar in com-mand in Gaul?

1883.

Write a brief life of Julius Cæsar.

Translate any two of the following passages : —

1. Dum haec in conloquio geruntur, Caesari nuntiatum est equites Ariovisti propius tumultum accedere et ad nostros adequitare, lapides telaque in nostros conicere. Caesar loquendi finem facit seque ad suos recipit suisque imperavit, ne quod omnino telum in hostes reicerent. Nam etsi sine ullo periculo legionis delectae cum equitatu proelium fore videbat, tamen committendum non putabat, ut pulsus hostibus dici posset eos ab se per fidem in conloquio circumventos. Posteaquam in vulgus militum elatum est, qua adrogantia in conloquio Ariovistus usus omni Gallia Romanis interdixisset, impetumque in nostros eius equites fecissent, eaque res conloquium ut diremisset, multo maior alacritas studiumque pugnandi maius exercitui iniectum est. — (*B. G. I. 46.*)

2. Eodem fere tempore Caesar, etsi prope exacta iam aestas erat, tamen, quod omni Gallia pacata Morini Menapiique supererant, qui in armis essent neque ad eum umquam legatos de pace misissent, arbitratus id bellum celeriter confici posse eo exercitum adduxit; qui longe alia ratione ac reliqui Galli bellum gerere coeperunt. Nam quod intellegebant maximas nationes, quae proelio contendissent, pulsas superatasque esse, continentesque silvas ac paludes habebant, eo se suaque omnia contulerunt. Ad quarum initium silvarum cum Caesar pervenisset castraque munire instituisset neque hostis interim visus esset, dispersis in opere nostris subito ex omnibus partibus silvae evolaverunt et in nostros impetum fecerunt. Nostri celeriter arma ceperunt eosque in silvas repulerunt et conpluribus interfectis longius inpeditionibus locis secuti paucos ex suis deperdiderunt. — (*B. G. III. 28.*)

3. Quibus rebus Romam nuntiatis tantus repente terror

invasit, ut, cum Lentulus consul ad aperiendum aerarium venisset ad pecuniam Pompeio ex senatusconsulto proferendam, protinus aperto sanctiore aerario ex urbe profugeret. Caesar enim adventare iam iamque et adesse eius equites falso nuntiabantur. Hunc Marcellus collega et plerique magistratus consecuti sunt. Cn. Pompeius pridie eius diei ex urbe profectus iter ad legiones habebat, quas a Caesare acceptas in Apulia hibernorum causa disposuerat. Delectus circa urbem intermittuntur: nihil citra Capuam tutum esse omnibus videtur. Capuae primum sese confirmant et colligunt delectumque colonorum, qui lege Iulia Capuam deducti erant, habere instituunt; gladiatoresque, quos ibi Caesar in ludo habebat, ad forum deductos Lentulus spe libertatis confirmat atque his equos adtribuit et se sequi iussit; quos postea monitus ab suis, quod ea res omnium iudicio reprehendebatur, circum familias conventus Campaniae custodiae causa distribuit. — (*B. C. I. 14.*)

4. Itaque duabus legionibus missis in ulteriorem Hispaniam cum Q. Cassio, tribuno plebis, ipse sexcentis equitibus magnis itineribus progreditur edictumque praemittit, ad quam diem magistratus principesque omnium civitatum sibi esse praesto Cordubae vellet. Quo edicto tota provincia pervulgato nulla fuit civitas, quin ad id tempus partem senatus Cordubam mitteret, non civis Romanus paulo notior, quin ad diem conveniret. Simul ipse Cordubae conventus per se portas Varroni clausit, custodias vigiliasque in turribus muroque disposuit, cohortes duas, quae colonicae appellabantur, cum eo casu venissent, tuendi oppidi causa apud se retinuit. Isdem diebus Carmonenses, quae est longe firmissima totius provinciae civitas, deductis tribus in arcem oppidi cohortibus a Varrone praesidio per se cohortes eiecit portasque praeclusit. — (*B. C. II. 19.*)

## CICERO.

1876.

1. Translate (*Cic. Cat. II. 4*):—

Unum etiam nunc concedam: exeant, proficiscantur, ne patiantur desiderio sui Catilinam miserum tabescere. Demonstrabo iter: Aurelia via profectus est; si accelerare volent, ad vesperam consequentur. O fortunatam rem publicam, si quidem hanc sentinam hujus urbis ejecerit! Uno mehercule Catilina exhausto, relevata mihi et recreata res publica videtur.

2. (a) What was the effect of Cicero's first oration upon Catiline? Location of the *via Aurelia*.

(b) Original meaning of *sentina*.

(c) Give the construction of *desiderio, sui, via, rem publicam*.

3. Translate (*Cic. Cat. IV. 5*):—

At vero C. Caesar intelligit legem Semproniam esse de civibus Romanis constitutam, qui autem rei publicae sit hostis, eum civem esse nullo modo posse; denique ipsum latorem legis Semproniae injussu populi poenas rei publicae dependisse.

4. (a) Explain the mood of *sit, posse*. What is the antecedent of *qui*?

(b) Why are *civem* and *latorem* in the accusative?

(c) What mode of punishment did Cæsar advise?

(d) Who proposed the *lex Sempronia* referred to here?

5. Translate (*Cic. Imp. Pomp. 7*):—

Est igitur humanitatis vestrae, magnum eorum civium numerum calamitate prohibere, sapientiae, videre multorum civium calamitatem a re publica sejunctam esse non posse.

6. The subject of *est*. Explain the construction of *sapientiae*.

1877.

1. Translate (*Cic. Cat. II. 6*):—

At etiam sunt qui dicant, Quirites, a me in exsilium ejectum esse Catilinam: quod ego si verbo adsequi possem, istos ipsos ejicerem, qui haec loquuntur. Homo enim videlicet timidus aut etiam permodestus vocem consulis ferre non potuit; simul atque ire in exsilium jussus est, paruit: Quid? ut hesterno die, Quirites, cum domi meae paene interfectus essem, senatum in aedem Jovis Statoris convocavi, rem omnem ad patres conscriptos detuli: quo cum Catilina venisset, quis eum senator appellavit?

2. (a) Account for the mood and tense of *dicant*, *ejicerem*, *interfectus essem*. Why is the preposition used with *me* (line 1)? What does *hesterno die* qualify?

(b) The location of the temple of Jupiter Stator. Why was it selected for this meeting of the senate?

3. Translate (*Cic. Cat. IV. 6*):—

Etenim quaero, si quis pater familias, liberis suis a servo interfectis, uxore occisa, incensa domo, supplicium de servo non quam acerbissimum sumpserit, utrum is clemens ac misericors an inhumanissimus et crudelissimus esse videatur?

4. (a) In what case is *familias*? What does *si* connect? what *utrum*?

(b) Construction of *liberis*, *servo* (line 1), *clemens*.

5. Translate (*Cic. Arch. V.*):—

Census nostros requiris scilicet: est enim obscurum proximis censoribus hunc cum clarissimo imperatore L. Lucullo apud exercitum fuisse, superioribus cum eodem quaestore fuisse in Asia, primis Julio et Crasso nullam populi partem esse censam.

6. (a) What uses of the ablative in this passage? With what does *obscurum* agree?

(b) How often was the *census* held? What were the duties of a *quaestor*?

## 1878.

1. Translate (*Cic. Cat. I. 6*): —

Quod ego praetermitto et facile patior sileri, ne in hac civitate tanti facinoris immanitas aut exstitisse aut non vindicata esse videatur. Praetermitto ruinas fortunarum tuarum, quas omnes impendere tibi proximis Idibus senties: ad illa venio, quae non ad privatam ignominiam vitiorum tuorum, non ad domesticam tuam difficultatem ac turpitudinem, sed ad summam rem publicam atque ad omnium nostrum vitam salutemque pertinent.

2. (a) Explain the subjunctive *videatur*.

(b) What days of the month were the Kalends, the Nones, and the Ides? How were the days numbered from these three points? Express in Latin *October 21st*.

3. Translate (*Cic. Cat. III. 7*): —

Omnia norat, omnium aditus tenebat; appellare; temptare, sollicitare, poterat, audebat; erat ei consilium ad facinus aptum, consilio autem neque manus neque lingua deerat. Jam ad certas res conficiendas certos homines delectos ac descriptos habebat; neque vero, cum aliquid mandarat, confectum putabat: nihil erat quod non ipse obiret, occurreret, vigilaret, laboraret; frigus, sitim, famem ferre poterat.

4. (a) Where are the forms *norat* and *poterat* found? Construction of *ei, consilio*. Explain the form *sitim*.

(b) What is *asyndeton*? Give an example from this passage.



5. Translate (*Cic. Arch. I.*):—

Quod si haec vox, hujus hortatu praeceptisque conformata, nonnullis aliquando saluti fuit, a quo id accepimus quo ceteris opitulari et alios servare possemus, huic profecto ipsi, quantum est situm in nobis, et opem et salutem ferre debemus.

6. (a) Give the antecedents of *a quo* and of *quo*.

(b) What was the charge against Archias? What claim had he to Cicero's services?

1879.

[One passage may be omitted.]

1. Translate (*Cic. Cat. II. 1*):—

Sine dubio perdidimus hominem magnificeque vicimus, cum illum ex occultis insidiis in apertum latrocinium conjecimus. Quod vero non cruentum mucronem, ut voluit, extulit, quod vivis nobis egressus est, quod ei ferrum e manibus extorsimus, quod incolumes cives, quod stantem urbem reliquit, quanto tandem illum maerore esse afflictum et profligatum putatis? Jacet ille nunc prostratusque est et se perculsum atque abjectum esse sentit et retorquet oculos profecto saepe ad hanc urbem, quam e suis faucibus ereptam esse luget: quae quidem mihi laetari videtur, quod tantam pestem evomuerit forasque projecerit.

2. (a) Upon what does *quod . . . extulit* depend? What is the object of *sentit*? Why *foras* and not *foris*? What is the subject of *projecerit*? Why is it subjunctive?

(b) Who was Cicero's colleague in the consulship, and how was he affected toward Catiline?

3. Translate (*Cic. Imp. Pomp. 20*):—

Etenim talis est vir, ut nulla res tanta sit ac tam difficilis, quam ille non et consilio regere et integritate tueri et virtute

conficere possit. Sed in hoc ipso ab eo vehementissime dissentio, quod quo minus certa est hominum ac minus diuturna vita, hoc magis res publica, dum per deos immortales licet, frui debet summi viri vita atque virtute.

4. (a) What kind of a genitive is *hominum*? What distinction in meaning between *talis* and *tantus*? What does *quod* connect? Construction of *hoc* (line 5), *vita* (line 6).  
 (b) The object of this oration. Its date.

5. Translate (*Cic. Marcell.* 7) : —

Nam quis est omnium tam ignarus rerum, tam rudis in re publica, tam nihil umquam nec de sua nec de communi salute cogitans, qui non intelligat tua salute contineri suam et ex unius tua vita pendere omnium? Equidem de te dies noctesque, ut debeo, cogitans casus dumtaxat humanos et incertos eventus valetudinis et naturae communis fragilitatem extimesco, doleoque, cum res publica immortalis esse debeat, eam in unius mortalis anima consistere.

6. Construction of *rerum*, *unius* (line 4), *omnium* (line 4), *dies*. Is *rudis* ever limited by a genitive? Explain the subjunctive *intelligat*. Upon what does *cum . . . debeat* depend? Why is the subjunctive required? What difference in meaning between *timeo* and *extimesco*?

7. Translate (*Cic. Mil.* 34) : —

Valeant, inquit, valeant cives mei; sint incolumes, sint florentes, sint beati; stet haec urbs praeclara mihique patria carissima, quoquo modo erit merita de me; tranquilla re publica mei cives, quoniam mihi cum illis non licet, sine me ipsi, sed propter me tamen perfruantur; ego cedam atque abibo: si mihi bona re publica frui non licuerit, at carebo mala, et quam primum tetigero bene moratam et liberam civitatem, in ea conquiescam.

8. (a) Where is the form *licuerit* found? *conquiescam*? Give the construction of *mihi* (line 2), *re publica* (line 6), *cives* (line 4), *mala*, *quam*.

(b) What was Cicero's reason for defending Milo?

1880.

[One passage may be omitted.]

1. Translate (*In Cat. III. 8*): —

Itaque illorum responsit tum et ludi per decem dies facti sunt neque res ulla quae ad placandos deos pertineret praetermissa est, idemque jusserunt simulacrum Jovis facere majus et in excelso collocare et contra atque antea fuerat ad orientem convertere; ac se sperare dixerunt, si illud signum, quod videtis, solis ortum et forum curiamque conspiceret, fore ut ea consilia, quae clam essent inita contra salutem urbis atque imperii, illustrarentur, ut a senatu populoque Romano perspicere possent.

2. (a) What kind of a genitive is *illorum*? Explain the ablative *responsis*. What is the use of *et* (line 1)? In what case is *idem*? To what is it here equivalent? Why is *videtis* not subjunctive?

(b) Indicate the relative positions of the Palatine hill, the Capitoline hill, the Forum and the Campus Martius.

3. Translate (*Pro Arch. VIII.*): —

Quis nostrum tam animo agresti ac duro fuit, ut Roscii morte nuper non commoveretur? Qui cum esset senex mortuus, tamen propter excellentem artem ac venustatem videbatur omnino mori non debuisse. Ergo ille corporis motu tantum amorem sibi conciliarat a nobis omnibus: nos animorum incredibiles motus celeritatemque ingeniorum neglegemus?

4. (a) Why not *quis nostri*? What kind of an ablative is *animo*? Explain the form *conciliarat*.

(b) Why does Cicero introduce the example of Roscius? Tell what you know about Roscius and his relations to Cicero.

5. Translate (*De Imp. Pomp. XII.*):—

Sociis ego nostris mare per hos annos clausum fuisse dicam, cum exercitus vestri numquam a Brundisio nisi hieme summa transmiserint? Qui ad vos ab exteris nationibus venirent captos querar, cum legati populi Romani redempti sint? Mercatoribus tutum mare non fuisse dicam, cum duodecim secures in praedonum potestatem pervenerint?

6. (a) Upon what does *cum . . . transmiserint* depend? The antecedent of *qui*. The meaning of *duodecim secures*. What are the contrasted words in each sentence?

(b) Why were the armies obliged to cross over from Brundisium in the winter? Where was Brundisium?

7. Translate (*Pro. Lig. IV.*):—

Hoc egit civis Romanus ante te nemo: externi isti mores, usque ad sanguinem incitari odio, aut levium Graecorum aut immanium barbarorum. Nam quid agis aliud? Romae ne sit? Ut domo careat? Ne cum optimis fratribus, ne cum hoc T. Broccho, avunculo, ne cum ejus filio consobrino suo, ne nobiscum vivat? Ne sit in patria? Num est? Num potest magis carere his omnibus quam caret?

8. (a) What does the genitive *Graecorum* limit? Why *hoc* (line 5) and not *illo*? What answer is expected to the question *Num est*? To whom does *ejus* refer? To whom *suo*?

(b) Who brought the accusation against Ligarius? Where and before whom was the case argued? How was it decided?

1881.

[One passage may be omitted.]

1. Translate (*In Cat. III. 10*) : —

In hoc autem uno post hominum memoriam maximo crudelissimoque bello, quale bellum nulla umquam barbaria cum sua gente gessit, quo in bello lex haec fuit a Lentulo, Catilina, Cethego, Cassio constituta, ut omnes, qui salva urbe salvi esse possent, in hostium numero ducerentur, ita me gessi, Quirites, ut salvi omnes conservaremini, et cum hostes vestri tantum civium superfuturum putassent, quantum infinitae caedi restitisset, tantum autem urbis, quantum flamma obire non potuisset, et urbem et cives integros incolumesque servavi.

2. (a) Give the principal verbs of this sentence. Upon what does *quantum . . . potuisset* depend? What explains the meaning of *lex haec*? Explain the subjunctives *possent*, *putassent*.

(b) Why did Cicero go into exile? How long was this after his consulship?

3. Translate (*Pro Marcell. I*) : —

Diurni silenti, patres conscripti, quo eram his temporibus usus, non timore aliquo, sed partim dolore, partim verecundia finem hodiernus dies attulit, idemque initium quae vellem quaeque sentirem meo pristino more dicendi: tantam enim mansuetudinem, tam inusitatam inauditamque clementiam, tantum in summa potestate rerum omnium modum, tam denique incredibilem sapientiam ac paene divinam tacitus praeterire nullo modo possum.

4. (a) With what does *idem* agree? The construction of the antecedent of *quae*. Why the pluperfect tense in *eram usus*?

(b) What moved Cicero to deliver this oration? What was the fate of Marcellus?

5. Translate (*Pro Arch.* III.) : —

Hac tanta celebritate famae cum esset jam absentibus notus, Romam venit Mario consule et Catulo. Nactus est primum consules eos, quorum alter res ad scribendum maximas, alter cum res gestas tum etiam studium atque aures adhibere posset. Statim Luculli, cum praetextatus etiam tum Archias esset, eum domum suam receperunt.

6. Explain fully the meaning of the sentence, *Nactus est . . . posset*. Why is the subjunctive required? Why *alter*, and not *alius*?

7. Translate (*Pro Lig.* XII.) : —

Nihil est tam popolare quam bonitas, nulla de virtutibus tuis plurimis nec admirabilior nec gratior misericordia est. Homines enim ad deos nulla re propius accedunt quam salutem hominibus dando; nihil habet nec fortuna tua majus quam ut possis, nec natura melius quam ut velis servare quam plurimos. Longiorem orationem causa forsitan postulet, tua certe natura brevior.

8. What determines the gender of *nulla*? With what does *melius* agree? Why are the two negatives *nulla . . . nec* not equivalent to an affirmative?

## 1882.

[Any two passages may be omitted.]

1. Translate (*Cat.* II. 6) : —

At etiam sunt qui dicant, Quirites, a me in exsilium ejectum esse Catilinam: quod ego si verbo adsequi possem, istos ipsos ejicerem, qui haec loquuntur. Homo enim videlicet timidus aut etiam permodestus vocem consulis ferre non potuit; simul atque ire in exsilium jussus est, paruit: quid? Ut hesterno die, Quirites, cum domi meae paene interfectus

essem, senatum in aedem Jovis Statoris convocavi, rem omnem ad patres conscriptos detuli: quo cum Catilina venisset, quis eum senator adpellavit? Quis salutavit? Quis denique ita aspexit ut perditum civem ac non potius ut importunissimum hostem?

2. Explain the uses of the subjunctive mode in this passage. What different meanings has *aedes* in the singular and plural? Why is the pluperfect tense used in *venisset* (line 8)? Could *qui* be substituted for *quis* in the expression *quis eum senator adpellavit*?

3. Translate (*Cat.* IV. 5):—

At vero C. Caesar intelligit legem Semproniam esse de civibus Romanis constitutam; qui autem rei publicae sit hostis, eum civem nullo modo esse posse: denique ipsum latorem Semproniae legis jussu populi poenas rei publicae dependisse. Idem ipsum Lentulum, largitorem et prodigum, non putat, cum de pernicie populi Romani, exitio hujus urbis tam acerbe, tam crudeliter cogitarit, etiam appellari posse popularem.

4. Who is meant by *latorem legis Semproniae*? Criticise the accuracy of the historical statement in lines 3 and 4. How would Cæsar have disposed of the convicted conspirators?

5. Translate (*Arch.* 8):—

Quod si ipsi haec neque attingere neque sensu nostro gustare possemus, tamen ea mirari deberemus, etiam cum in aliis videremus. Quis nostrum tam animo agresti ac duro fuit, ut Roscii morte nuper non commoveretur? Qui cum esset senex mortuus, tamen propter excellentem artem ac venustatem videbatur omnino mori non debuisse. Ergo ille corporis motu tantum amorem sibi conciliarat a nobis omnibus: nos animorum incredibiles motus celeritatemque ingeniorum negligemus?

6. Why is *nostrum* used (line 3) in preference to *nostri*? How can we tell from the form of the dependent sentence whether *commoveretur* denotes purpose or result? Give the ablative singular of *excellentem* and *incredibiles*.

7. Translate (*Marcell.* 6) : —

Quare gaude tuo isto tam excellenti bono, et frui cum fortuna et gloria tum etiam natura et moribus tuis; ex quo quidem maximus est fructus jucunditasque sapienti. Cetera cum tua recordabere, etsi persaepe virtuti, tamen plerumque felicitati tuae gratulabere: de nobis, quos in re publica tecum simul esse voluisti, quoties cogitabis, toties de maximis tuis beneficiis, toties de incredibili liberalitate, toties de singulari sapientia tua cogitabis.

8. Give construction of *bono* and *fortuna*. What is the difference in meaning between *ceterus* and *alius*? What kind of a verb is *recordabere*? Give its participles with their meaning.

9. Translate (*Manil.* 15) : —

Jam accepta in Ponto calamitate ex eo proelio, de quo vos paulo ante invitatus admonui, cum socii pertinuissent, hostium opes animique crevissent, satis firmum praesidium provincia non haberet, amisissetis Asiam, Quirites, nisi ad ipsum discrimen ejus temporis divinitus Cn. Pompeium ad eas regiones fortuna populi Romani attulisset. Hujus adventus et Mithridatem insolita inflammata victoria continuit et Tigranem magnis copiis minitantem Asiae retardavit.

10. What would be the imperfect subjunctive of *accepta*? How would it differ in form from the imperfect subjunctive of *venio*? Pompey's full name was *Gnaeus Pompeius Strabo*; — what did the Romans call each of these names?



1883.

[Any two passages may be omitted.]

1. (a) Translate (in *L. Catilinam Prima*, XI.) : —

“ M. Tulli, quid agis? tune eum, quem esse hostem comperisti, quem ducem belli futurum vides, quem expectari imperatorem in castris hostium sentis, auctorem sceleris, principem coniurationis, evocatorem servorum et civium perditorum, exire patiere, ut abs te non emissus ex urbe, sed immissus in urbem esse videatur? nonne hunc in vincula duci, non ad mortem rapi, non summo supplicio mactari imperabis? Quid tandem impedit te? Mosne maiorum? At persaepe etiam privati in hac re publica perniciosos civis morte multarunt. An leges, quae de civium Romanorum supplicio rogatae sunt? At nunquam in hac urbe ii, qui a re publica defecerunt, civium iura tenuerunt. An invidiam posteritatis times? Praeclaram vero populo Romano refers gratiam, qui te, hominem per te cognitum, nulla commendatione maiorum, tam mature ad summum imperium per omnis honorum gradus extulit, si propter invidiam aut alicuius periculi metum salutem civium tuorum negligis.”

(b) Give a brief sketch of Cicero's life up to the time of the delivery of this oration. What political offices had he successively held, as suggested by the words *per omnis honorum gradus* (line 16), what in general were the duties of these offices, and at what age did he reach the consulship, as suggested by the words *tam mature ad summum imperium* (line 16).

2. (a) Translate (*Pro Archia*, III.) : —

Hac tanta celebritate famae cum esset iam absentibus notus, Romam venit, Mario consule et Catulo. Nactus est primum consules eos, quorum alter res ad scribendum maximas, alter cum res gestas, tum etiam studium atque auris

adhibere posset. Statim Luculli, cum praetextatus etiam tum Archias esset, eum [in] domum suam receperunt. Sed etiam hoc non solum ingeni ac literarum, verum etiam naturae atque virtutis, ut domus, quae huius adolescentiae prima fuerit, eadem esset familiarissima senectuti. Erat temporibus illis iucundus Q. Metello, illi Numidico, et eius Pio filio : audiebatur a M. Aemilio : vivebat cum Q. Catulo, et patre, et filio.

(b) *Mario consule et Catulo* (line 2) — about what time was this? *Res ad scribendum maximas* (line 3) — mention some of them.

(c) Explain the expression *cum praetextatus . . . Archias esset* (line 6). What does it imply as to the age of Archias at the time when he came to Rome? Why is Quintus Metellus called *ille Numidicus* (line 10)? Give the present of *nactus est*. Explain the subjunctives in the passage.

3. (a) Translate (*Pro M. Marcello*, VI.) :—

Atque huius quidem rei M. Marcello sum testis. Nostri enim sensus, ut in pace semper, sic tum etiam in bello congruebant. Quoties ego eum et quanto cum dolore vidi, cum insolentiam certorum hominum, tum etiam ipsius victoriae ferocitatem extimescentem ! Quo gratior tua liberalitas, C. Caesar, nobis, qui illa vidimus, debet esse. Non enim iam causae sunt inter se, sed victoriae comparandae. Vidimus tuam victoriam proeliorum exitu terminatam ; gladium vagina vacuum in urbe non vidimus. Quos amisimus civis, eos Martis vis perculit, non ira victoriae, ut dubitare debeat nemo, quin multos, si fieri posset, C. Caesar ab inferis excitaret, quoniam ex eadem acie conservat, quos potest.

(b) What part of speech is *nostri* (line 1), and how is this determined? From what kind of a verb does the *ac*

show *extimescentem* (line 5) to be? What figure of speech in *Martis vis* (line 10)? Why is *quin* (line 11) employed here rather, for example, than *quominus*? What does *ut* connect (line 10), *quin* (line 11), *si* (line 11), and *quoniam* (line 12)? Explain the uses of the subjunctive mode in the passage.

4. (a) Translate (*Pro Lege Manilia*, XXIII.) : —

Ora maritima, Quirites, Cn. Pompeium non solum propter rei militaris gloriam, sed etiam propter animi continentiam requisivit. Videbat enim praetores locupletari quotannis pecunia publica, praeter paucos, neque eos quidquam aliud assequi classium nomine, nisi ut detrimentis accipiendis maiore affici turpitudine videremur. Nunc qua cupiditate homines in provincias, quibus iacturis, quibus conditionibus proficiscantur, ignorant videlicet isti, qui ad unum deferenda esse omnia non arbitrantur: quasi vero Cn. Pompeium non cum suis virtutibus, tum etiam alienis vitiis magnum esse videamus? Quare nolite dubitare, quin huic uni credatis omnia, qui inter tot annos unus inventus sit, quem socii in urbes suas cum exercitu venisse gaudeant.

(b) Explain the uses of subjunctive mode in the passage. What other ways of expressing a prohibition than the one employed in *nolite dubitare* (line 11)? What other constructions after verbs of rejoicing than the accusative with the infinitive, as in *quem . . . venisse . . . gaudeant* (line 13)?

(c) State briefly the subject of this oration and the circumstances under which it was delivered.

## VERGIL AND OVID.

1876.

1. Translate (*Verg. Æn.* V. 604–612) : —

Hic primum Fortuna fidem mutata novavit  
 Dum variis tumulo referunt sollemnia ludis  
 Irim de caelo misit Saturnia Juno  
 Iliacam ad classem, ventosque adspirat eunti,  
 Multa movens, necdum antiquum saturata dolorem  
 Illa, viam celerans per mille coloribus arcum,  
 Nulli visa cito decurrit tramite virgo.  
 Conspicit ingentem concursum, et litora lustrat,  
 Desertosque videt portus classemque relictam.

2. (a) Explain the tense of *referunt*. What does *dum* connect? Explain the form *Irim*. Give the nominative singular of *eunti*.

(b) Why was Juno hostile to the Trojans? What calamity did she now bring upon them?

3. (a) Divide the last two lines into feet, marking the quantity of each syllable.

(b) Account for the quantity of the final syllables in *variis*, *tumulo*, *de*, *adspirat*.

(c) When is *e* final long? Mark the quantity of the vowels in *iebam*, *mel*. Distinguish between *idem* and *īdem*, *fūgit* and *fūgit*.

[6 may be substituted for either 4 or 5.]

4. Translate (*Verg. Ecl.* X. 64–68) : —

Non illum nostri possunt mutare labores ;  
 Nec si frigoribus mediis Hebrumque bibamus,  
 Sithoniasque nives hiemis subeamus aquosae,  
 Nec si, cum moriens alta liber aret in ulmo,  
 Aethiopum versemus ovis subsidere Cancri.

5. Translate (*Verg. Geor. I.* 383–387) : —

Jam varias pelagi volucres, et quae Asia circum  
 Dulcibus in stagnis rimantur prata Caystri,  
 Certatim largos umeris infundere rores,  
 Nunc caput objectare fretis, nunc currere in undas,  
 Et studio incassum videas gestire lavandi.

6. Translate (*Ovid, Met. II.* 319–324) : —

At Phaëthon, rutilos flamma populante capillos,  
 Volvitur in praeceps, longoque per aëra tractu  
 Fertur, ut interdum de caelo stella sereno  
 Etsi non cecidit, potuit cecidisse videri.  
 Quem procul a patria diverso maximus orbe  
 Excipit Eridanus, fumantiaque abluit ora.

## 1877.

1. Translate (*Verg. Æn. III.* 492–499) : —

Hos ego digrediens lacrimis affabar obortis :  
 Vivite felices, quibus est fortuna peracta  
 Jam sua ; nos alia ex aliis in fata vocamur.  
 Vobis parta quies ; nullum maris aequor arandum  
 Arva neque Ausoniae semper cedentia retro  
 Quaerenda ; effigiam Xanthi Trojamque videtis,  
 Quam vestrae fecere manus melioribus, opto,  
 Auspiciis, et quae fuerit minus obvia Graiis.

2. (a) To what does *sua* relate? What country was called Ausonia? Explain the meaning of the expression, *semper cedentia retro*.

(b) At what places had Æneas landed before his arrival at Chaonia, and where had he attempted settlements?

3. (a) Divide the last two lines into feet, marking the quantity of each syllable.

(b) What is the quantity of the final syllables in *mare*, *mari*, *maria*, *illas*, *nubes*, *cornu*, *quo* ; and of the penultimate syllables in *traho*, *fiam*, *bibi* ?

(c) When is *is* final long ?

[6 may be substituted for either 4 or 5.]

4. Translate (*Verg. Ecl.* III. 32–39) : —

De grege non ausim quicquam deponere tecum ;  
Est mihi namque domi pater, est injusta noverca ;  
Bisque die numerant ambo pecus, alter et haedos.  
Verum, id quod multo tute ipse fatebere majus,  
Insanire libet quoniam tibi, pocula ponam  
Fagina, caelatum divini opus Alcimedontis.  
Lenta quibus torno facile superaddita vitis  
Diffusos hedera vestit pallente corymbos.

5. Translate (*Verg. Geor.* I. 493–497) : —

Scilicet et tempus veniet, cum finibus illis  
Agricola, incurvo terram molitus aratro,  
Exesa inveniet scabra robigine pila,  
Aut gravibus rastris galeas pulsabit inanes,  
Grandiaque effosis mirabitur ossa sepulchris.

6. Translate (*Ovid, Met.* III. 28–34) : —

Silva vetus stabat nulla violata securi,  
Et specus in medio, virgis ac vimine densus,  
Efficiens humilem lapidum compagibus arcum,  
Uberibus fecundus aquis, ubi conditus antro  
Martius anguis erat, cristis praesignis et auro :  
Igne micant oculi, corpus tumet omne veneno,  
Tresque vibrant linguae, triplici stant ordine dentes.

1878.

1. Translate (*Verg. Æn.* II. 437-444): —

Hic vero ingentem pugnam, ceu cetera nusquam  
 Bella forent, nulli tota morerentur in urbe,  
 Sic Martem indomitum Danaosque ad tecta ruentes  
 Cernimus, obsessumque acta testudine limen.  
 Haerent parietibus scalae, postesque sub ipsos  
 Nituntur gradibus, clipeosque ad tela sinistris  
 Protecti objiciunt, prensant fastigia dextris.

2. (a) Why is *forent* subjunctive? How was a *testudo* formed?

(b) Distinguish between *paries* and *moenia*, *tela* and *arma*.

(c) Who were called *Danai*? By what other names does Virgil designate them?

3. (a) Divide lines 4 and 5 into feet, marking the quantity of each syllable.

(b) In this passage, what final syllables having a short vowel are made long by position?

(c) Mark the quantity of each syllable in *diei*, *ab*, *pacis*, *dabamus*.

[6 may be substituted for 4 or 5.]

4. Translate (*Verg. Ecl.* I. 59-63): —

Ante leves ergo pascentur in aethere cervi,  
 Et freta destituent nudos in litore pisces,  
 Ante, pererratis amborum finibus, exsul  
 Aut Ararim Parthus bibet, aut Germania Tigrim,  
 Quam nostro illius labatur pectore voltus.

5. Locate the rivers mentioned in line 4. Distinguish between *lēvis* and *lēvis*.

6. Translate (*Verg. Geor. I.* 129–135):—

Ille malum virus serpentibus addidit atris,  
 Praedarique lupos jussit, pontumque moveri,  
 Mellaque decussit foliis, ignemque removit,  
 Et passim rivis currentia vina repressit,  
 Ut varias usus meditando extunderet artes  
 Paulatim, et sulcis frumenti quaereret herbam,  
 Ut silicis venis abstrusum excuderet ignem.

7. Translate (*Ovid, Met. III.* 55–62):—

Ut nemus intravit, letataque corpora vidit,  
 Victoremque supra spatiosi corporis hostem  
 Tristia sanguinea lambentem vulnera lingua,  
 “Aut ultor vestrae, fidissima corpora, mortis,  
 Aut comes,” inquit, “ero.” Dixit, dextraque molarem  
 Sustulit, et magnum magno conamine misit.  
 Illius impulsu cum turribus ardua celsis  
 Moenia mota forent: serpens sine vulnere mansit.

1879.

[Omit any two passages.]

1. Translate (*Verg. Æn. I.* 740–746):—

Cithara crinitus Iopas  
 Personat aurata, docuit quem maximus Atlas.  
 Hic canit errantem lunam solisque labores,  
 Unde hominum genus et pecudes, unde imber et ignes,  
 Arcturum pluviasque Hyadas geminosque Triones,  
 Quid tantum oceano properent se tinguere soles  
 Hiberni, vel quae tardis mora noctibus obstet.

2. To what does *geminos Triones* refer? Explain the meaning of the last two verses.



3. Translate (*Verg. Æn.* VI. 384–391) : —

Ergo iter inceptum peragunt, fluvioque propinquant.  
 Navita quos jam inde ut Stygia prospexit ab unda  
 Per tacitum nemus ire pedemque advertere ripae,  
 Sic prior aggreditur dictis atque increpat ultro :  
 “ Quisquis es, armatus qui nostra ad flumina tendis,  
 “ Fare age, quid venias, jam istinc et comprime  
     gressum.  
 “ Umbrarum hic locus est, Somni Noctisque soporae :  
 “ Corpora viva nefas Stygia vectare carina.”

4. What is the object of *prospexit*? With what is *jam istinc* to be joined? How does the Sibyl appease Charon?

5. Translate (*Verg. Æn.* IX. 176–183) : —

Nisus erat portae custos, acerrimus armis,  
 Hyrtacides, comitem Aeneae quem miserat Ida  
 Venatrix, jaculo celerem levibusque sagittis ;  
 Et juxta comes Euryalus, quo pulchrior alter  
 Non fuit Aeneadum, Trojana neque induit arma,  
 Ora puer prima signans intonsa juventa.  
 His amor unus erat, pariterque in bella ruebant ;  
 Tum quoque communi portam statione tenebant.

6. Describe briefly the adventure of Nisus and Euryalus which is related in this book.

7. Translate (*Verg. Ecl.* V. 45–52) : —

Tale tuum carmen nobis, divine poeta,  
 Quale supor fessis in gramine, quale per aestum  
 Dulcis aquae saliente sitim restinguere rivo.  
 Nec calamis solum aequiparas, sed voce magistrum.  
 Fortunate puer, tu nunc eris alter ab illo.  
 Nos tamen haec quocumque modo tibi nostra vicissim  
 Dicemus, Daphnimque tuum tollemus ad astra ;  
 Daphnin ad astra feremus : amavit nos quoque  
     Daphnis.

8. What other word in the sentence has the same construction as *sopor*? In what sense is *alter* used?

9. Translate (*Verg. Geor. I. 259–267*) : —

Frigidus agricolam si quando continet imber,  
 Multa, forent quae mox caelo properanda sereno,  
 Maturare datur : durum procudit arator  
 Vomeris obtunsi dentem, cavat arbore lintres,  
 Aut pecori signum aut numeros impressit acervis.  
 Exacuunt alii vallos furcasque bicornis,  
 Atque Amerina parant lentae retinacula viti.  
 Nunc facilis rubea texatur fiscina virga ;  
 Nunc torrete igni fruges, nunc frangite saxo.

10. To whom was this work dedicated? The general subject of the first book.

11. Translate (*Ovid, Met. IV. 654–662*) : —

At quoniam parvi tibi gratia nostra est,  
 Accipe munus, ait ; laevaue a parte Medusae  
 Ipse retroversus squalentia prodidit ora.  
 Quantus erat, mons factus Atlas : nam barba co-  
 maeque  
 In silvas abeunt, juga sunt umerique manusque ;  
 Quod caput ante fuit, summo est in monte cacumen ;  
 Ossa lapis fiunt. Tum partes auctus in omnes  
 Crevit in immensum — sic di statuistis — et omne  
 Cum tot sideribus caelum requievit in illo.

#### PROSODY.

1. Explain the terms, *spondee*, *ictus*, *thesis*.
2. Give the rules for the quantity of *a* final and *es* final, with the most important exceptions.
3. Divide the following verse into feet, marking the place of the *cæsura*, and the quantity of each syllable : —

*Unde hominum genus et pecudes, unde imber et ignes.*

1880.

[Omit any two passages.]

1. Translate (
- Verg. Æn.*
- II. 571-582):—

Illa \* sibi infestos eversa ob Pergama Teucros  
 Et poenas Danaum et deserti conjugis iras  
 Praemetuens, Trojae et patriae communis Erinys,  
 Abdiderat sese atque aris invisā sedebat.  
 Exarsere ignes animo; subit ira cadentem  
 Ulcisci patriam et sceleratas sumere poenas.  
 " Scilicet haec Spartam incolumis patriasque Mycenae  
 " Adspiciet? partoque ibit regina triumpho,  
 " Conjugiumque domumque patres natosque videbit,  
 " Iliadum turba et Phrygiis comitata ministris?  
 " Occiderit ferro Priamus? Troja arserit igni?  
 " Dardanium toties sudarit sanguine litus?

\* Helen.

2. (a) To whom does
- conjugis*
- (line 2) refer?

(b) Explain the meaning of *Trojae et patriae communis Erinys*.

- (c) In what two ways may
- invisā*
- (line 4) be translated?

3. Translate (
- Verg. Æn.*
- V. 852-861):—

Talia dicta dabat, clavumque affixus et haerens  
 Nusquam amittebat, oculosque sub astra tenebat.  
 Ecce deus ramum Lethaeo rore madentem  
 Vique soporatum Stygia super utraque quassat  
 Tempora, cunctantique natantia lumina solvit.  
 Vix primos inopina quies laxaverat artus;  
 Et superincumbens, cum puppis parte revulsa  
 Cumque gubernaculo, liquidas projecit in undas  
 Praecipitem ac socios nequidquam saepe vocantem;  
 Ipse volans tenues se sustulit ales ad auras.

4. Explain the epithets
- Lethaeo*
- and
- Stygia*
- .

5. Translate (*Verg. Æn.* VII. 360–370):—

Nec te miseret gnataeque tuique?  
 Nec matris miseret, quam primo aquilone relinquet  
 Perfidus, alta petens abducta virgine, praedo?  
 At non sic Phrygius penetrat Lacedaemona pastor  
 Ledaemque Helenam Trojanas vexit ad urbes?  
 Quid tua sancta fides? quid cura antiqua tuorum  
 Et consanguineo toties data dextera Turno?  
 Si gener externa petitur de gente Latinis,  
 Idque sedet, Faunique premunt te iussa parentis,  
 Omnem equidem sceptris terram quae libera nostris  
 Dissidet, externam reor, et sic dicere divos.

6. (a) Who is meant by *Phrygius pastor*?  
 (b) Explain the purport of the last two lines.

7. Translate (*Verg. Ecl.* III. 64–71):—

*D.* Malo me Galatea petit, lasciva puella,  
 Et fugit ad salices, et se cupit ante videri.  
*M.* At mihi sese offert ultro meus ignis Amyntas,  
 Notior ut jam sit canibus non Delia nostris.  
*D.* Parta meae Veneri sunt munera: namque notavi  
 Ipse locum, aëriae quo congressere palumbes.  
*M.* Quod potui, puero silvestri ex arbore lecta  
 Aurea mala decem misi; cras altera mittam.

8. Translate (*Verg. Geor.* II. 397–407):—

Est etiam ille labor curandis vitibus alter,  
 Cui numquam exhausti satis est: namque omne quo-  
 tannis  
 Terque quaterque solum scindendum glaebaque versis  
 Aeternum frangenda bidentibus; omne levandum  
 Fronde nemus. Redit agricolis labor actus in orbem,  
 Atque in se sua per vestigia volvitur annus.  
 Ac jam olim, seras posuit cum vinea frondes,

Frigidus et silvis Aquilo decussit honorem,  
 Jam tum acer curas venientem extendit in annum  
 Rusticus, et curvo Saturni dente relictam  
 Persequitur vitem attondens fingitque putando.

9. Translate (*Ovid, Met. I. 351-362*): —

“O soror, o conjunx, o femina sola superstes,  
 Quam commune mihi genus et patruelis origo,  
 Deinde torus junxit, nunc ipsa pericula jungunt:  
 Terrarum, quascumque vident occasus et ortus,  
 Nos duo turba sumus; possedit cetera pontus.  
 Haec quoque adhuc vitae non est fiducia nostrae  
 Certa satis; terrent etiam nunc nubila mentem.  
 Quid tibi, si sine me fatis erepta fuisses,  
 Nunc animi, miseranda, foret? quo sola timorem  
 Ferre modo posses? quo consolante doleres?  
 Namque ego, crede mihi, si te quoque pontus haberet,  
 Te sequerer, conjunx, et me quoque pontus haberet.

PROSODY.

10. (a) Give the rules for the quantity of final syllables in *es* and in *o* with the principal exceptions.

(b) Define *cæsura*. Where is the *cæsural* pause usually found?

(c) Mark off the following lines into feet, indicating the quantity of each syllable; and show where the *cæsural* pause falls: —

Postquam altum tenuere rates, nec jam amplius ullae  
 Apparent terrae, caelum undique et undique pontus,  
 Tum mihi caeruleus supra caput adstitit imber,  
 Noctem hiememque ferens, et inhorruit unda tenebris.

1881.

1. Translate (*Verg. Æn.* IV. 560–565): —

Nate dea, potes hoc sub casu ducere somnos,  
 Nec, quae te circum stent deinde pericula, cernis,  
 Demens, nec Zephyros audis spirare secundos?  
 Illa dolos dirumque nefas in pectore versat,  
 Certa mori, varioque irarum fluctuat aestu.  
 Non fugis hinc praeceps, dum praecipitare potestas?

2. (a) Give the construction of *dea*. Who are meant by *Nate*, *dea*, and *illa*?

(b) Divide the first three lines into feet, and give rules for the quantities of any nine vowels in the first line.

[Omit any two of the following passages.]

3. Translate (*Verg. Ecl.* III. 32–37): —

De grege non ausim quicquam deponere tecum:  
 Est mihi namque domi pater, est injusta noverca;  
 Bisque die numerant ambo pecus, alter et haedos.  
 Verum, id quod multo tute ipse fatebere majus,  
 Insanire libet quoniam tibi, pocula ponam  
 Fagina, caelatum divini opus Alcimedontis.

4. Why are these poems called “Eclogues”? Why “Bucolics”?

5. Translate (*Verg. Geor.* II. 503–512): —

Sollicitant alii remis freta caeca, ruuntque  
 In ferrum, penetrant aulas et limina regum;  
 Hic petit exscidiis urbem miserosque Penatis,  
 Ut gemma bibat et Sarrano dormiat ostro;  
 Condit opes alius, defossoque incubat auro;  
 Hic stupet attonitus Rostris; hunc plausus hiantem  
 Per cuneos geminatus enim plebisque patrumque  
 Corripuit; gaudent perfusi sanguine fratrum,

Exsilioque domos et dulcia limina mutant,  
Atque alio patriam quaerunt sub sole iacentem.

6. Tell what you know of the Penates. Give the derivation and different meanings of *rostrum*.

7. Translate (*Verg. Æn. IX. 375-383*): —

Conclamat ab agmine Volscens :  
State, viri ; quae caussa viae ? quive estis in armis ?  
Quove tenetis iter ? Nihil illi tendere contra,  
Sed celerare fugam in silvas et fidere nocti.  
Obiiciunt equites sese ad divortia nota  
Hinc atque hinc, omnemque abitum custode coronant.  
Silva fuit late dumis atque ilice nigra  
Horrida, quam densi conplerant undique sentes ;  
Rara per occultos lucebat semita calles.

8. Give in outline the episode of Nisus and Euryalus.

9. Translate (*Ovid, Met. I. 324-335*): —

Juppiter ut liquidis stagnare paludibus orbem,  
Et superesse virum de tot modo milibus unum,  
Et superesse videt de tot modo milibus unam,  
Innocuos ambos, cultores numinis ambos,  
Nubila disjecit, nimbisque aquilone remotis  
Et caelo terras ostendit, et aethera terris.  
Nec maris ira manet, positoque tricuspide telo  
Mulcet aquas rector pelagi, supraque profundum  
Exstantem atque umeros innato murice tectum  
Caeruleum Tritona vocat, conchaeque sonanti  
Inspirare jubet, fluctusque et flumina signo  
Jam revocare dato.

10. Who is meant by *rector pelagi*? Give the myth of Deucalion.

## 1882.

1. Translate (*Verg. Ecl.* VII. 6-13):—

Huc mihi, dum teneras defendo a frigore myrtos,  
 Vir gregis ipse caper deeraverat; atque ego Daphnim  
 Aspicio. Ille ubi me contra videt; Ocius, inquit,  
 Huc ades, o Meliboe! caper tibi salvus et haedi;  
 Et, si quid cessare potes, requiesce sub umbra.  
 Huc ipsi potum venient per prata juvenci;  
 Hic virides tenera praetexit harundine ripas  
 Mincius, eque sacra resonant examina quercu.

2. Give the construction of *quid* (line 5), *potum* (line 6).  
 Meaning of *vir* (line 2); why could not *homo* be used?  
 Derivation of *examina* (line 8).

3. Divide the first two lines of the preceding passage into feet, marking the quantity of the syllables. Give rule for the quantity of final vowel of *mihi*; of final syllable of *gregis*. What names does this verse bear, and why are they given? What figure of prosody in the second line?

4. Translate (*Verg. Aen.* V. 854-861):—

Ecce deus ramum Lethaeo rore madentem  
 Vique soporatum Stygia super utraque quassat  
 Tempora, cunctantique natantia lumina solvit.  
 Vix primos inopina quies laxaverat artus:  
 Et superincumbens cum puppis parte revolsa  
 Cumque gubernaculo liquidas projecit in undas  
 Praecipitem ac socios nequiquam saepe vocantem;  
 Ipse volans tenues se sustulit ales ad auras.

5. Construction of *cunctanti* (line 3); to whom does it refer? What sort of a verb is *quassat* (line 2)?



[Omit any two of the following passages.]

6. Translate (*Verg. Geor.* II. 532–538) : —

Hanc olim veteres vitam coluere Sabini  
Hanc Remus et frater, sic fortis Etruria crevit  
Scilicet et rerum facta est pulcherrima Roma,  
Septemque una sibi muro circumdedit arces.  
Ante etiam sceptrum Dictaei regis, et ante  
Impia quam caesis gens est epulata juvencis,  
Aureus hanc vitam in terris Saturnus agebat.

7. Who is meant by *Dictaei regis* (line 5), and why is he so termed? To whom were the Georgics addressed?

8. Translate (*Verg. Aen.* IX. 47–53) : —

Turnus, ut ante volans tardum praecesserat agmen,  
Viginti lectis equitum comitatus et urbi  
Improvisus adest; maculis quem Thracius albis  
Portat equus, cristaque tegit galea aurea rubra.  
Ecquis erit, mecum, juvenes, qui primus in hostem?  
En, ait. Et jaculum attorquens emittit in auras,  
Principium pugnae, et campo sese arduus infert.

9. Construction of *qui* (line 5). What figure have we in the line?

10. Translate (*Ovid, Met.* IV. 735–743) : —

Litora cum plausu clamor superasque deorum  
Implevere domos: gaudent, generumque salutant,  
Auxiliumque domus servatoremque fatentur  
Cassiope Cepheusque pater: resoluta catenis  
Incedit virgo, pretiumque et causa laboris.  
Ipse manus hausta victrices abluit unda;  
Anguiferumque caput dura ne laedat harena,  
Mollit humum foliis, natasque sub aequore virgas  
Sternit, et imponit Phorcynidos ora Medusae.

11. Give a *brief* outline of the story here referred to.

1883.

## PROSODY.

1. Describe the following verse by giving its full metrical name : —

*Quippe etiam festis quaedam exercere diebus.*

Divide it into feet, marking the quantity of each syllable and the place of the cæsura. What figure of prosody does this verse illustrate? Show wherein. Mark the quantity of the final syllables in *possis*, *audi*, *bonus*, *dummodo*, *bos*, *illuc*.

2. Translate (*Æn.* VI. 56–65) : —

“Phoebe, graves Trojae semper miserate labores,  
 “Dardana qui Paridis direxti tela manusque  
 “Corpus in Aeacidæ, magnas obeuntia terras  
 “Tot maria intravi duce te, penitusque repostas.  
 “Massylum gentes prætentaque Syrtibus arva;  
 “Jam tandem Italiae fugientis prendimus oras:  
 “Hac Trojana tenus fuerit fortuna secuta!  
 “Vos quoque Pergameæ jam fas est parcere genti,  
 “Dique deæque omnes, quibus obstitit Ilium et ingens  
 “Gloria Dardaniæ.

Explain the reference in the second verse. What were the Syrtes? How had Æneas made this voyage “*duce te*”?

3. Translate (*Ecl.* VI. 64–73) : —

Tum canit, errantem Permessi ad flumina Gallum  
 Aonas in montes ut duxerit una sororum,  
 Utque viro Phoebi chorus adsurrexerit omnis;  
 Ut Linus hæc illi, divino carmine pastor,  
 Floribus atque apio crines ornatus amaro  
 Dixerit: “Hos tibi dant calamos, en accipe, musæ,  
 Ascræo quos ante seni; quibus ille solebat

Cantando rigidas deducere montibus ornos,  
His tibi Grynei nemoris dicatur origo,  
Ne quis sit lucus, quo se plus jactet Apollo."

How is *Aonias* declined? Who is meant by *Ascræo seni*?  
The construction of *crines*.

[Omit any two of the following passages.]

4. Translate (*Æn.* VII. 523-530) : —

Direxere acies. Non jam certamine agresti  
Stipitibus duris agitur sudibusve praeustis ;  
Sed ferro ancipiti decernunt, atraque late  
Horrescit strictis seges ensibus, aeraque fulgent  
Sole lacessita et lucem sub nubila jactant :  
Fluctus uti primo coepit quum albescere ponto,  
Paullatim sese tollit mare et altius undas  
Erigit, inde imo consurgit ad aethera fundo.

What had Alecto done to bring on this conflict between  
the Trojans and the Latins ?

5. Translate (*Geor.* II. 61-68) : —

Scilicet omnibus est labor impendendus, et omnes  
Cogendae in sulcum ac multa mercede domandae.  
Sed truncis oleae melius, propagine vites  
Respondent, solido Paphiae de robore myrtus ;  
Plantis et durae coryli nascuntur et ingens  
Fraxinus Herculeaeque arbor umbrosa coronae  
Chaoniiue patris glandes ; etiam ardua palma  
Nascitur et casus abies visura marinos.

At whose request did Vergil write the *Georgics*? The  
main subject of Book II.

6. Translate (*Met.* I. 244-252) : —

Dicta Jovis pars voce probant stimulosque frementi  
Adiciunt, alii partes assensibus implent.

**Est tamen humani generis jactura dolori  
Omnibus, et, quae sit terrae mortalibus orbae  
Forma futura, rogant; quis sit laturus in aras  
Tura? ferisne paret populandas tradere terras?  
Talia quaerentes, sibi enim fore cetera curae,  
Rex superum trepidare vetat, subolemque priori  
Dissimilem populo promittit origine mira.**

**Explain the meaning of the first two verses. How,  
according to this myth, was the earth repopled?**

## LATIN AT SIGHT.

1881.

M. Atilius Regulus, cum consul iterum in Africa ex insidiis captus esset, duce Xanthippo Lacedaemonio, imperatore autem patre Hannibalis Hamilcare, juratus missus est ad senatum, ut, nisi redditi essent Poenis captivi nobiles quidam, rediret ipse Karthaginem. Is cum Romam venisset, utilitatis speciem videbat, sed eam, ut res declarat, falsam judicavit: quae erat talis: manere in patria, esse domi suae cum uxore, cum liberis; quam calamitatem accepisset in bello, communem fortunae bellicae judicantem, tenere consularis dignitatis gradum. Itaque quid fecit? In senatum venit, mandata exposuit: sententiam ne diceret, recusavit; “quam diu jure jurando hostium teneretur, non esse se senatorem.”

1882.

Illa praeclara, in quibus publicae utilitatis species prae honestate contemnitur. Plena exemplorum est nostra res publica, cum saepe, tum maxime bello Punico secundo: quae, Cannensi calamitate accepta, majores animos habuit, quam unquam rebus secundis. Nulla timoris significatio, nulla mentio pacis. Themistocles post victoriam ejus belli, quod cum Persis fuit, dixit in contione, se habere consilium rei publicae salutare, sed id sciri non opus esse. Postulavit, ut aliquem populus daret, quicum communicaret. Datus est Aristides. Huic ille, classem Lacedaemoniorum, quae subducta esset ad Gytheum, clam incendi posse: quo facto frangi Lacedaemoniorum opes necesse esset. Quod Aristides cum audisset, in contionem magna expectatione venit, dixitque, perutile esse consilium, quod Themistocles afferret, sed minime honestum. Itaque Athenienses, quod honestum non esset, id ne utile quidem putaverunt: totamque eam rem, quam ne audierant quidem, auctore Aristide repudiaverunt.

1883.

Haec interposui, patres conscripti, non tam ut pro me dicerem, quam ut quosdam nimis ieiuno animo et angusto monerem, id quod semper ipse fecissem, uti excellentium civium virtutem imitatione dignam, non invidia putarent. utinam quidem illi principes viverent, qui me post meum consulatum, cum eis ipse cederem, principem non inviti videbant! hoc vero tempore in tanta inopia constantium et fortium consularium quo me dolore adfici creditis, cum alios male sentire, alios nihil omnino curare videam, alios parum constanter in suscepta causa permanere sententiamque suam non semper utilitate rei publicae, sed tum spe tum timore moderari? quod si quis de contentione principatus laborat, quae nulla esse debet, stultissime facit, si vitiis cum virtute contendit; ut enim cursu cursus, sic in viris fortibus virtus virtute superatur. tu, si ego de re publica optime sentiam, ut me vincas, ipse pessime senties? aut, si ad me bonorum concursus fieri videbis, ad te improbos invitabis? nollem, primum rei publicae causa, deinde etiam dignitatis tuae. sed si principatus ageretur, quem numquam expetivi, quid tandem mihi esset optatius? ego enim malis sententiis vinci non possum, bonis forsitan possim et libenter.

## LATIN COMPOSITION.

1880.

Translate into Latin one of the three following paragraphs : —

1. It is the duty of a good man to abstain from injury and to envy nobody. He said that he had not concealed anything from his parents. Slaves are of the same morals as their master. He hopes to provide for the interests of his country. Is it not better to do good, even to the bad, than to be wanting to the good? There is no doubt that superstition ought to be a reproach to a man. There were some who said that I had deserved a triumph. The merchant sells a peck of wheat at three sesterces.

2. A storm arose which drove our ships some in one direction, and some in another. Although Cæsar sent forward scouts, who were to inform him with respect to the plans of the Gauls, nevertheless they made no report. If we had set out from Rome ten days ago, we should have gone by the Appian way. If Cæsar should repent of his kindness, this man would be condemned for treason.

3. If a good man has brought from Alexandria to Rhodes a great quantity (*numerus*) of grain in (a time of) great destitution (*inopia*) at Rhodes, and knows that many merchants have set sail (*solvo*) from Alexandria, and has seen their ships on the way to (*peto*) Rhodes, laden (*onustus*) with grain, will he tell that to the Rhodians, or, in silence, sell his grain for as much as possible? We are inquiring about the deliberation of one who will not conceal (*celo*) from the Rhodians, if he thinks it base, but doubts whether it is base or not.

**1881.**

Translate into Latin : —

When Epaminondas had conquered the Lacedæmonians, and saw that he was dying of a wound, he asked whether his shield (*clipeus*) was safe. When his weeping friends answered that it was safe, he asked if the enemy were routed. After hearing that question also answered as he wished, he ordered the spear, with which he was transfixed, to be drawn out. And so, after shedding (*profundo*) much blood, he died in joy and victory.

**1882.**

1. When the ambassadors of the Samnites had brought to Manius Curius a great weight of gold, he, after having been asked to be willing to use it, laughed and said at once, "Tell the Samnites that I would rather rule the rich than be rich myself; carry back that gift and remember that I can neither be conquered in battle nor corrupted by money."

2. Give the quotation both as direct and as indirect discourse.

**1883.**

Translate into Latin : —

Labienus, one of Cæsar's lieutenants, desiring to fight against the Gauls before the arrival of the Germans, who he knew would come to aid them, pretended want-of-confidence (*diffidentia*), and, placing his camp on the other bank, proclaimed (*edico*) a departure for the next day. The Gauls, believing that he was flying, began to cross the river which was between; but Labienus, leading his army around, cut them to pieces in the midst of the difficulties of crossing the river.



## ROMAN HISTORY.

### 1881.

1. Explain the origin and nature of the Tribuneship.
2. Give the cause, duration, and results of the struggle between Rome and Carthage.
3. Give the place and manner of death of each member of the first Triumvirate.
4. Mention any three writers of the Augustan age.

### 1882.

1. Give an account of the capture of Rome by the Gauls.
2. Explain how Rome obtained and governed her first province.
3. Sketch the life and character of Caius Gracchus.
4. By what steps did Augustus become emperor? Mention peculiarities of his reign.
5. Who succeeded Augustus in the first century?

### 1883.

1. What evils did the Gracchi attempt to reform? What was the difference between the plans of T. Gracchus and C. Gracchus? Why did they fail?
2. What were the limits of the Roman Empire at the death of Augustus?

3. Where were *Actium*, *Metaurus*, *Zama*, *Pharsalia*, *Cynoscephalae*? What happened at those places, and when?

4. Explain *Tribunus*, *Provincia*, *Censor*, *Decemvir*, *Dictator*.

5. Name in order of time the foreign enemies that Rome fought on Italian soil.

## GREEK GRAMMAR AND COMPOSITION.

1876.

[All Greek words to be written with accents.]

1. Give the indefinite, demonstrative, and relative adverbs corresponding to the interrogatives *πότε* and *πόθεν*.

2. What is the quantity of the ultima in *σῶμα*, *χώρα*, *ἄνθρωποι*, *ἄγγελοι*, and of the penult in *κρίνε*? What shows in each case, and on what rules?

3. Decline, through all numbers, *δόξα*, *ὁδός*, *πατήρ*, *πόλις*.

4. Compare the adjectives *μέγας*, *ἡδύς*, *σοφός*, the adverb *μάλα*.

5. Give the synopsis (*i.e.*, first form in each mode) of the perfect middle, first aorist active, and future active of *φαίνω*. Inflect through the numbers and persons the imperfect active and middle of *τίθημι*, the aorist subjunctive passive of *λύω*.

6. Analyze *λύσουσι*.

7. What prepositions are used with one case only, and with what case respectively?

1877.

[All Greek words to be written with the accent.]

*και γαρ ουν πλειστοι δη αυτω ἐνι γε ανδρι των εφ' ημων  
επεθυμησαν και πολεις και τα εαυτων σωματα δουναι.*

1. Write these lines with the proper accents and breathings.

2. Decline throughout the nouns in them; also the pronoun *αυτω* in all genders and numbers.

3. Where is *επεθυμησαν* found? Give the synopsis (*i.e.*, first form in every mode) of its tense, and of that of *δουναι*.

Inflect, through the persons and numbers, the present and imperfect active indicative of φιλέω, and the future optative active of φαίνω.

4. Analyze ἐλύσαντο.

5. Mention the principal uses of the subjunctive mode in Greek, in both principal and dependent clauses.

### 1878.

[All Greek words to be written with the accent.]

1. Decline throughout γλώσσα, λόγος, πατήρ, and the pronouns τίς and οὗτος.

2. Give the synopsis (*i.e.*, first form in every mode) of the future active and middle of στέλλω, and of the perfect middle of φαίνω.

3. Analyze λύσωμαι, stating where this form is made.

4. What is the difference of meaning between εἶσι and εἰσί, ὦν and ὧν, ὁ αὐτὸς ἄνθρωπος and ὁ ἄνθρωπος αὐτός?

5. Translate into Greek: —

(a) His mother sends for him from the province which he holds.

(b) When he had halted<sup>1</sup> his chariot before the phalanx, he sent for Menon to come to him.

(c) If any one had gone into the city, what would he have suffered?

<sup>1</sup> Express "when he had halted" by a participle.

### 1879.

[See Anabasis paper for this year.]

[All Greek words to be written with accents.]

1. Decline πᾶς in all numbers and genders.

2. Analyze ἐλύθησαν. 3. State the chief uses of the optative mode in principal and in dependent clauses.

4. Translate into Greek : —

(a) We shall besiege the city both by land and by sea.

(b) He did not do harm<sup>1</sup> to others, because he feared that he might suffer harm<sup>1</sup> himself.

(c) The hoplites will march against the king, if he encamp in the plain.

(d) He said that Cyrus would have given him ten talents, if he had arrived before the battle.

(e) He used-to-praise whomever he saw bravely attacking<sup>2</sup> the enemy.

<sup>1</sup> κακῶς.

<sup>2</sup> ἐπιτίθεμαι.

### 1880.

[All Greek words to be written with accents.]

1. Decline πολὺς in all genders and numbers ; also νῖός and πόλις throughout.

2. Give the first person singular indicative of the future active and aorist passive of φαίνω, φιλέω, ἀκούω, πράσσω.

3. Analyze λυθήσεσθον.

4. Give the different constructions in which the accusative case is used in Greek.

5. Define *crasis*, *enclitic*, *reduplication*, mentioning examples of each.

6. Translate into Attic Greek : —

(a) He mounted his horse, and took his javelins in his hand.

(b) Through the middle of the city there flowed a river, Kydnos by name, two plethra in width.

(c) If the general himself had occupied the right wing, we should have conquered the enemy (from) whom now we are fleeing.

(d) He says it is well if we do-good-to all those whoever do-harm-to us.

(e) If you have no chariot, why do you want a horse?

1881.

[All Greek words to be written with accents.]

1. Decline throughout *τιμή*, *δῶρον*, *γένος*, the pronoun *σύ*, and the numeral *εἷς*.

2. Give the synopsis (*i.e.*, first form in every mode) of the first aorist active of *στέλλω*, the second aorist middle of *τίθημι*.

3. Analyze *λυθείσαν*.

4. What sort of pronouns are *οἶος* and *ὅσος*? Give the demonstrative and interrogative pronouns corresponding.

5. What is *hiatus*, and what means are used in Greek to avoid it?

6. Give some rules with examples of euphonic change in consonants. What consonants may end a Greek word?

7. Give a list of prepositions that take one case only.

8. Explain, with Greek examples, the terms *enclitic*, *cognate accusative*, *objective genitive*, *supplementary participle*.

9. With what parts of the verb is the particle *ἄν* not used?

1. Cyrus, with his army, was besieging this city. And of the citizens some wished to surrender<sup>1</sup> it, but others spoke against<sup>2</sup> (it). Cyrus, therefore, said that when he had taken the city, he should do well by<sup>3</sup> those who spoke against surrender, and exile<sup>4</sup> the others.

2. If the general had wished to go, the soldiers would have followed (him).

3. Let us march as quickly as possible to the river that we may embark upon the boats which Cyrus has given us.

<sup>1</sup> παραδίδωμι.<sup>2</sup> ἀντιλέγω.<sup>3</sup> εὖ ποιεῖν.<sup>4</sup> ἐκβάλλω.

1882.

[All Greek words to be written with accents.]

1. Decline throughout *μοῦσα, ὁδός, παῖς, πολὺς*, and the pronoun *οὗ*.

2. Give the synopsis (*i.e.*, first form in every mode) of the future active of *φαίνω*, the first aorist passive of *λαμβάνω*, the perfect middle of *πράσσω*.

3. Analyze *λύσονται*.

4. What sort of pronoun is *ὅς*? what *ὅστις*? Give Greek examples of demonstrative, reciprocal, reflexive, and possessive pronouns.

5. What is *crasis*? Give an example.

6. What is meant by *attraction* in connection with relative clauses?

7. What are the four most common forms of conditional sentences, with the differences of meaning?

8. In what two ways is *prohibition* expressed in Greek?

9. "He asked who were present." In what different ways may "who were present" in this sentence be expressed in Greek?

10. Mention the chief uses of the infinitive mode.

1. And Orontes, a Persian gentleman, conspires against<sup>1</sup> Cyrus. He said to Cyrus that, if he would give him a thousand horsemen, he would either cut to pieces<sup>2</sup> or take alive the hostile horsemen. And Cyrus directed him to take a part (of the number) from each of the generals. And he writes a letter to the king that he was coming with<sup>3</sup> as many horsemen as possible. This letter he gives to a faithful per-

<sup>1</sup> ἐπιβουλεύω.<sup>2</sup> κατακτείνω.<sup>3</sup> = *having*.

son, as he thought. And he having taken (it), gives (it) to Cyrus.

2. I was the first to announce to him that Cyrus was making an expedition against him.

3. Let us provide ourselves with arms, and go up on the mountain.

4. If we had besieged that city, we should have taken it.

### 1888.

[All Greek words to be written with accents.]

1. Decline throughout *ὀργή, χεῖρ, τεῖχος, δύναμις*; also *ὅστις*.

2. Analyze *λυθῶμεν*.

3. What uses of the *genitive* are illustrated in the following examples: *πολλοὶ τῶν Ἀθηναίων*, — *νόμισμα ἀργύρου*, — *ὁ φόβος τῶν πολεμίων*, — *τριῶν ἡμερῶν ὁδός*?

4. Explain, with Greek examples, the terms *proclitic*, *potential optative*, *verbal adjective*.

5. Give the comparative and superlative of *μέλας, μέγας, πολὺς*.

6. Write the synopsis (*i.e.* first form of every mode) of the perfect middle of *λύω*, the first aorist active of *στέλλω*, the second aorist passive of *φαίνω*.

7. Where found and from what presents are *εἶλον, ἡλλάχθην, ἐγρήγορα*.

8. State the difference in meaning between *μὴ τοῦτο ποιήσης* and *μὴ τοῦτο ποιήσεις*; between *ἔστην* and *ἔστησα*.

9. Name the classes into which verbs are divided according to the form of the present stem, with an example under each.

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1. The citizens chose Kyros (to be) general out of many (candidates), (one) of whom was the brother of Kyros.



After not many days this brother, commanding in-the-absence-of-Kyros,<sup>1</sup> won a great victory, but the praise for the victory was given to Kyros as being general. The brother therefore said, "One (man) sows,<sup>2</sup> another reaps-the-harvest.<sup>3</sup>"

2. But if any one sees a better (plan), let him speak.

3. Whenever any one wished to make-war with the king, he used-to-praise them.

4. I fear that he may take (me) and inflict punishment on me.

<sup>1</sup> gen. absol. with participle.

## GREEK PROSE.

1876.

[Any two of the following passages may be omitted.]

1. Translate (*Xen. An. I. 3, 18*):—

ἀλλ' ἐγὼ φημι ταῦτα μὲν φλυαρίας εἶναι· δοκεῖ δέ μοι ἄνδρας ἐλθόντας πρὸς Κῦρον οἷτινες ἐπιτήδαιοι σὺν Κλεάρχῳ ἐρωτᾶν ἐκείνους τί βούλεται ἡμῖν χρῆσθαι· καὶ ἐὰν μὲν ἡ πράξις ἢ παραπλησία οἷαπερ καὶ πρόσθεν ἐχρήτο τοῖς ξένοις, ἔπεσθαι καὶ ἡμᾶς καὶ μὴ κακίους εἶναι τῶν πρόσθεν τούτῳ συναναβάντων· ἐὰν δὲ μείζων ἡ πράξις τῆς πρόσθεν φαίνεται, ἀξιούν ἢ πείσαντα ἡμᾶς ἄγειν ἢ πεισθέντα πρὸς φιλίαν ἀπιέναι.

Construction of οἷαπερ and of πεισθέντα. On what does ἔπεσθαι depend?

2. Translate (*Xen. An. II. 6, 7f.*):—

οὕτω μὲν φιλοπόλεμος ἦν· πολεμικὸς δὲ αὐτὴ ταύτη ἐδόκει εἶναι ὅτι φιλοκίνδυνός τε καὶ ἡμέρας καὶ νυκτὸς ἄγων ἐπὶ τοὺς πολεμίους καὶ ἐν τοῖς δεινοῖς φρόνιμος· καὶ ἀρχικὸς δ' ἐλέγετο εἶναι ὥς δυνατόν ἐκ τοῦ τοιούτου τρόπου οἷον κακείνος εἶχεν. ἱκανὸς μὲν γὰρ ὥς τις καὶ ἄλλος φροντίζειν ἦν ὅπως ἔχοι ἡ στρατιὰ αὐτῷ τὰ ἐπιτήδεια καὶ παρασκευάζειν ταῦτα, ἱκανὸς δὲ καὶ ἐμποιεῖσαι τοῖς παροῦσιν ὥς πειστέον εἶη Κλεάρχῳ.

Construction of ἡμέρας and of τίς. Object of ἐμποιεῖσαι.

3. Translate (*Xen. An. III. 2, 26*):—

δοκεῖ οὖν μοι εἰκὸς καὶ δίκαιον εἶναι πρῶτον εἰς τὴν Ἑλλάδα καὶ πρὸς τοὺς οἰκείους πειρᾶσθαι ἀφικνεῖσθαι καὶ ἐπιδεῖξαι τοῖς Ἕλλησιν ὅτι ἐκόντες πένονται, ἐξόν

αὐτοῖς τοὺς νῦν οἴκοι ἀκλήρους πολιτεύοντας ἐνθάδε κομισαμένους πλουσίους ὀράν. ἀλλὰ γάρ, ὦ ἄνδρες, πάντα ταῦτα τάγαθὰ δῆλον ὅτι τῶν κρατούντων ἐστί.

Construction of ἐξόν, of πλουσίους, of τῶν κρατούντων.

4. Translate (*Xen. An. IV. 5, 12 f.*) : —

ἐφείποντο δὲ τῶν πολεμίων συνειλεγμένοι τινὲς καὶ τὰ μὴ δυνάμενα τῶν ὑποζυγίων ἤρπαζον καὶ ἀλλήλοις ἐμάχοντο περὶ αὐτῶν. ἐλείποντο δὲ τῶν στρατιωτῶν οἳ τε διεφθαρμένοι ὑπὸ τῆς χιόνος τοὺς ὀφθαλμοὺς οἳ τε ὑπὸ τοῦ ψύχους τοὺς δακτύλους τῶν ποδῶν ἀποσσεσηπότες. ἦν δὲ τοῖς μὲν ὀφθαλμοῖς ἐπικούρημα τῆς χιόνος εἴ τις μέλαν τι ἔχων πρὸ τῶν ὀφθαλμῶν ἐπορευέτο, τῶν δὲ ποδῶν εἴ τις κινοῖτο καὶ μηδέποτε ἡσυχίαν ἔχοι καὶ εἰ τὴν νύκτα ὑπολύοιτο.

Construction of τοὺς ὀφθαλμούς, of τῶν ποδῶν (before εἴ τις). Explain the last four words of the passage.

5. Translate (*Hdt. VII. 120*) : —

ἔνθα δὴ Μεγακρέοντος ἀνδρὸς Ἀβδηρίτεω ἔπος εὖ εἰρημένον ἐγένετο, ὃς συνεβούλευσε Ἀβδηρίτησι πανδημεὶ αὐτοὺς καὶ γυναῖκας ἐλθόντας εἰς τὰ σφέτερα ἰρὰ ἵζεσθαι ἰκέτας τῶν θεῶν, παραιτεομένους καὶ τὸ λοιπὸν σφι ἀπαμύνειν τῶν ἐπιόντων κακῶν τὰ ἡμίσεα, τῶν τε παροιχομένων ἔχειν σφι μεγάλην χάριν, ὅτι βασιλεὺς Ξέρξης οὐ δις ἐκάστης ἡμέρης ἐνόμισε σίτον αἰρέεσθαι· παρέχειν γὰρ ἂν Ἀβδηρίτησι, εἰ καὶ ἄριστον προείρητο ὁμοῖα τῷ δείπνῳ παρασκευάζειν, ἢ μὴ ὑπομένειν Ξέρξεα ἐπιόντα, ἢ καταμείναντας κάκιστα πάντων ἀνθρώπων διατριβῆναι.

Mark the variations from the Attic dialect. Subject of ἔχεν and of παρέχειν. Where was Abdera?

## 1877.

[Any two of the following passages may be omitted.]

1. Translate (*Xen. An. I. 6, 9*):—

πρὸς ταῦτα Κύρος εἶπε τοῖς παροῦσιν· Ὁ μὲν ἀνὴρ τοιαῦτα μὲν πεποίηκε, τοιαῦτα δὲ λέγει· ὑμῶν δὲ σὺ πρῶτος, ὦ Κλέαρχε, ἀποφῆναι γνώμην ὃ τι σοι δοκεῖ. Κλέαρχος δὲ εἶπε τάδε· Συμβουλευώ ἐγὼ τὸν ἄνδρα τοῦτον ἐκποδὼν ποιεῖσθαι ὡς τάχιστα, ὡς μηκέτι δέῃ τοῦτον φυλάττεσθαι, ἀλλὰ σχολὴ ἢ ἡμῖν τὸ κατὰ τοῦτον εἶναι τοὺς ἐθέλοντάς φίλους τούτους εὖ ποιεῖν. μετὰ ταῦτα κελεύοντος Κύρου ἔλαβον τῆς ζώνης τὸν Ὀρόντην ἐπὶ θανάτῳ ἅπαντες ἀναστάντες· εἶτα δὲ ἐξήγον αὐτὸν οἷς προσετάχθη.

Point out the indirect question. Why ἀποφῆναι, and not ἀποφῆναι or ἀποφῆναι? Construction of ζώνης and of the antecedent of οἷς.

2. Translate (*Xen. An. II. 6, 6*):—

ταῦτα οὖν φιλοπολέμου μοι δοκεῖ ἀνδρὸς ἔργα εἶναι, ὅστις ἐξὸν μὲν εἰρήνην ἔχειν ἄνευ αἰσχύνης καὶ βλάβης αἰρεῖται πολεμεῖν, ἐξὸν δὲ χρήματα ἔχειν ἀκινδύνως αἰρεῖται πολεμῶν μείονα ταῦτα ποιεῖν· ἐκείνος δὲ ὥσπερ εἰς παιδικὰ ἢ εἰς ἄλλην τινὰ ἡδονὴν ἤθελε δαπανᾶν εἰς πόλεμον.

Construction of ἐξόν. Of whom is this character given?

3. Translate (*Xen. An. III. 3, 1*):—

τούτων λεχθέντων ἀνέστησαν, καὶ ἀπελθόντες κατέκαον τὰς ἀμάξας καὶ τὰς σκηνάς, τῶν δὲ περιττῶν ὅτου μὲν δέοιτό τις μετεδίδουσαν ἀλλήλοις, τὰ δὲ ἄλλα εἰς τὸ πῦρ ἐρρίπτουν. ταῦτα ποιήσαντες ἡριστοποιοῦντο. ἀρι-

στοποιοιυμένων δὲ αὐτῶν ἔρχεται Μιθριδάτης σὺν ἱππεῦ-  
σιν ὡς τριάκοντα καὶ καλέσάμενος τοὺς στρατηγούς εἰς  
ἐπήκοον λέγει ὧδε . . . εἰ οὖν ὀρῶν ὑμᾶς σωτήριόν τι  
βουλευομένους, ἔλθοιμι ἂν πρὸς ὑμᾶς, καὶ τοὺς θεράπον-  
τας πάντας ἔχων. λέξατε οὖν πρὸς με, τί ἐν νῷ ἔχετε.

Construction of τῶν περιττῶν. What other form is there of  
οὔτου? What custom is implied by ἀνέστησαν, and in what  
tense is the verb?

4. Translate (*Xen. An.* IV. 6, 4):—

μετὰ τοῦτος ἐπορεύθησαν ἐπὶ σταθμούς, ἀνὰ πέντε  
παρασάγγας τῆς ἡμέρας, παρὰ τὸν Φᾶσιν ποταμὸν, εὖρος  
πλεθριαῖον. Χειρίσοφος δ' ἐπεὶ κατείδε τοὺς πολεμίους  
ἐπὶ τῇ ὑπερβολῇ ἐπαύσατο πορευόμενος, ἀπέχων εἰς  
τριάκοντα σταδίους, ἵνα μὴ κατὰ κέρας ἄγων πλησιάζῃ  
τοῖς πολεμίοις· παρήγγειλε δὲ καὶ τοῖς ἄλλοις παράγειν  
τοὺς λόχους, ὅπως ἐπὶ φάλαγγος γένοιτο τὸ στράτευμα.

Construction of τῆς ἡμέρας. Value of the *plethron* and  
*stadion* in our measures. Where was the Φᾶσις? Is Xeno-  
phon right in naming it here?

5. Translate (*Hdt.* VI. 107):—

καὶ οἱ ταῦτα διέποντι ἐπῆλθε πταρεῖν τε καὶ βῆξαι  
μεζόνως ἢ ὡς ἐώθεε, οἷα δὲ πρεσβυτέρῳ ἐόντι τῶν ὀδόντων  
οἱ πλευνες ἐσειέοντο. τούτων ὦν ἓνα τῶν ὀδόντων ἐκβάλ-  
λει ὑπὸ βίης βήξας· ἐκπεσόντος δὲ ἐς τὴν ψάμμον αὐτοῦ,  
ἐποιέετο πολλὴν σπουδὴν ἐξευρεῖν· ὡς δὲ οὐκ ἐφαίνετό  
οἱ ὁ ὁδὼν, ἀναστενάξας εἶπε πρὸς τοὺς παραστάτας· Ἡ  
γῆ ἥδε οὐκ ἡμετέρη ἐστὶ, οὐδέ μιν δυνησόμεθα ὑποχειρὶν  
ποιήσασθαι· ὁκόσον δὲ τί μοι μέρος μετῆν, ὁ ὁδὼν  
μετέχει.

Point out the dialectic forms, giving the Attic equivalent  
in each case. Of whom is this story told, and what led him  
to make the remark?

1878.

[Any two of the passages may be omitted.]

1. Translate (*Xen. An. I. 5, 8*) :—

ἐνθα δὴ μέρος τι τῆς εὐταξίας ἦν θεάσασθαι. ῥίψαντες γὰρ τοὺς πορφυροὺς κάνδους ὅπου ἔτυχεν ἕκαστος ἐστηκώς, ἴεντο ὥσπερ ἂν δράμοι τις περὶ νίκης καὶ μάλα κατὰ πρानοὺς γηλόφου, ἔχοντες τούτους τε τοὺς πολυτελεῖς χιτῶνας καὶ τὰς ποικίλας ἀναξυρίδας, ἔνιοι δὲ καὶ στρεπτοὺς περὶ τοῖς τραχήλοις καὶ ψέλια περὶ ταῖς χερσίν· εὐθύς δὲ σὺν τούτοις εἰσπηδήσαντες εἰς τὸν πηλὸν θᾶττον ἢ ὥς τις ἂν ᾤετο μετεώρους ἐξεκόμισαν τὰς ἀμάξας.

Give the present of δράμοι, and the comparison of θᾶττον. Explain the euphonic changes in θᾶττον. Point out the predicate adjective in this sentence.

2. Translate (*Xen. An. II. 5, 16*) :—

ἀλλ' ἥδομαι μέν, ὦ Κλέαρχε, ἀκούων σου φρονίμους λόγους· ταῦτα γὰρ γινώσκων εἴ τι ἐμοὶ κακὸν βουλευοίς, ἅμα ἂν μοι δοκεῖς καὶ σαυτῷ κακόνους εἶναι. ὥς δ' ἂν μάθῃς, ὅτι οὐδ' ἂν ὑμεῖς δικαίως οὔτε βασιλεῖ οὔτ' ἐμοὶ ἀπιστοίητε, ἀντάκουσον. εἰ γὰρ ὑμᾶς ἐβουλόμεθα ἀπολέσαι, πότερά σοι δοκοῦμεν ἱππέων πλήθους ἀπορεῖν ἢ πεζῶν ἢ ὀπλίσεως;

What use of the participle is seen in ἀκούων? To what does ἂν (the one after ἅμα) belong? Construction of μοί, of κακόνους, and of πλήθους.

3. Translate (*Xen. An. III. 2, 9*) :—

τοῦτο δὲ λέγοντος αὐτοῦ πτάρνυται τις· ἀκούσαντες δ' οἱ στρατιῶται πάντες μιᾷ ὁρμῇ προσεκύνησαν τὸν θεόν, καὶ Ξενοφῶν εἶπε, Δοκεῖ μοι, ὦ ἄνδρες, ἐπεὶ περὶ σωτη-

ρίας ἡμῶν λεγόντων, οἰωνὸς τοῦ Διὸς τοῦ σωτήρος ἐφάνη, εὐξασθαι τῷ θεῷ τούτῳ θύσειν σωτήρια ὅπου ἂν πρῶτον εἰς φιλίαν χώραν ἀφικώμεθα, συνεπεύξασθαι δὲ καὶ τοῖς ἄλλοις θεοῖς θύσειν κατὰ δύναμιν. καὶ ὅτῳ δοκεῖ ταῦτ', ἔφη, ἀνατεινάτω τὴν χεῖρα. καὶ ἀνέτειναν ἅπαντες. ἐκ τούτου εὐξάντο καὶ ἐπαιάνισαν.

Reason for the subjunctive in ἀφικώμεθα. Construction of ἡμῶν. Construction of the antecedent of ὅτῳ.

4. Translate (*Xen. An. IV. 4, 15*):—

ἐντεῦθεν ἔπεμψαν νυκτὸς Δημοκράτην Τεμενίτην ἄνδρας δόντες ἐπὶ τὰ ὄρη, ἔνθα ἔφασαν οἱ ἀποσκεδαννύμενοι καθορᾶν τὰ πυρά· οὗτος γὰρ ἐδόκει καὶ πρότερον πολλὰ ἤδη ἀληθεῦσαι τοιαῦτα, τὰ ὄντα τε ὥς ὄντα καὶ τὰ μὴ ὄντα ὥς οὐκ ὄντα. πορευθεῖς δὲ τὰ μὲν πυρὰ οὐκ ἔφη ἰδεῖν, ἄνδρα δὲ συλλαβὼν ἤκεν ἄγων ἔχοντα τόξον Περσικὸν καὶ φαρέτραν καὶ σάγαριν, οἷανπερ αἱ Ἀμαζόνες ἔχουσιν. ἐρωτώμενος δὲ τὸ ποδαπὸς εἴη, Πέρσης μὲν ἔφη εἶναι, πορεύεσθαι δ' ἀπὸ τοῦ Τιριβάζου στρατεύματος, ὅπως ἐπιτήδεια λάβοι.

Construction of νυκτός. To what does τό belong? Reason for the optative in εἴη and in λάβοι.

5. Translate (*Plato Apol. Soc., 39 A.*):—

καὶ γὰρ ἐν ταῖς μάχαις πολλάκις δῆλον γίγνεται ὅτι τό γε ἀποθανεῖν ἂν τις ἐκφύγοι καὶ ὅπλα ἀφείς καὶ ἐφ' ἱκετείαν τραπόμενος τῶν διωκόντων· καὶ ἄλλαι μηχαναὶ εἰσιν ἐν ἐκάστοις τοῖς κινδύνοις ὥστε διαφεύγειν θάνατον, εἴαν τις τολμᾷ πᾶν ποιεῖν καὶ λέγειν. ἀλλὰ μὴ οὐ τοῦτ' ἢ χαλεπὸν, ὦ ἄνδρες, θάνατον ἐκφυγεῖν, ἀλλὰ πολὺ χαλεπώτερον πονηρίαν· θᾶπτον γὰρ θανάτου θεῖ. καὶ νῦν ἐγὼ μὲν, ἅτε βραδὺς ὢν καὶ πρεσβύτης, ὑπὸ τοῦ

βραδυτέρου εάλων, οἱ δ' ἐμοὶ κατήγοροι, ἅτε δεινοὶ καὶ ὀξεῖς ὄντες, ὑπὸ τοῦ θάπτονος, τῆς κακίας.

What shows the mode of *τολμᾶ*? What is understood before *μή*? Construction of *χαλεπώτερον* and of *πονηρίαν*. Present of *εάλων*.

## 1879.

[Any two of these passages, with their questions, may be omitted.]

1. Translate (*Xen. An. I. 6, 8*) : —

Τί οὖν, ἔφη ὁ Κῦρος, ἀδικηθεὶς ὑπ' ἐμοῦ νῦν τὸ τρίτον ἐπιβουλεύων μοι φανερὸς γέγονας ; εἰπόντος δὲ τοῦ Ὀρόντου ὅτι οὐδὲν ἀδικηθεὶς ἠρώτησεν ὁ Κῦρος αὐτόν, Ὁμολογεῖς οὖν περὶ ἐμὲ ἄδικος γεγενῆσθαι ; Ἡ γὰρ ἀνάγκη, ἔφη ὁ Ὀρόντης. ἐκ τούτου πάλιν ἠρώτησεν ὁ Κῦρος, Ἔτι οὖν ἂν γένοιο τῷ ἐμῷ ἀδελφῷ πολέμιος, ἐμοὶ δὲ φίλος καὶ πιστός ; ὁ δὲ ἀπεκρίνατο ὅτι οὐδ' εἰ γενοίμην, ὦ Κῦρε, σοὶ γ' ἂν ποτε ἔτι δόξαιμι.

What were the previous cases referred to in τὸ τρίτον?

2. Translate (*Xen. An. II. 3, 23*) : —

ἐπεὶ δὲ Κῦρος τέθνηκεν, οὔτε βασιλεῖ ἀντιποιοούμεθα τῆς ἀρχῆς οὔτ' ἔστιν ὅτου ἕνεκα βουλοίμεθ' ἂν τὴν βασιλέως χώραν κακῶς ποιεῖν, οὐδ' αὐτόν ἀποκτείνειν ἂν ἐθέλοιμεν, πορευοίμεθα δ' ἂν οἴκαδε, εἴ τις ἡμᾶς μὴ λυποῖη· ἀδικοῦντα μέντοι πειρασόμεθα σὺν τοῖς θεοῖς ἀμύνασθαι, ἐὰν μέντοι τις ἡμᾶς καὶ εὖ ποιῶν ὑπάρχη, καὶ τούτου εἰς γε δύναμιν οὐχ ἡττησόμεθα εὖ ποιοῦντες.

3. Translate (*Xen. An. III. 4, 10, 12*) : —

ἐντεῦθεν ἐπορεύθησαν σταθμὸν ἕνα, παρασάγγας ἕξ, πρὸς τεῖχος ἔρημον μέγα πρὸς πόλει κείμενον· ὄνομα δὲ



ἦν τῇ πόλει Μέσπιλα· Μῆδοι δ' αὐτήν ποτε ᾤκουν. ἦν δὲ ἡ μὲν κρηπὶς λίθου ξεστοῦ κογχυλιάτου, τὸ εὖρος πεντήκοντα ποδῶν καὶ τὸ ὕψος πεντήκοντα. ταύτην δὲ τὴν πόλιν πολιορκῶν ὁ Περσῶν βασιλεὺς οὐκ ἐδύνατο οὔτε χρόνῳ ἐλεῖν οὔτε βίᾳ· Ζεὺς δ' ἐμβροντήτους ποιεῖ τοὺς ἐνοικοῦντας καὶ οὕτως ἐάλω.

What was the length of the parasang? What meaning has χρόνῳ here? Of what ancient city were these the ruins? What historical error in Μῆδοι?

4. Translate (*Plat. Apol.* 11, 13):—

ἐννοήσωμεν δὲ καὶ τῇδε, ὡς πολλὰ ἐλπίς ἐστὶν ἀγαθὸν αὐτὸ εἶναι. δυοῖν γὰρ θάτερόν ἐστι τὸ τεθνάναι· ἡ γὰρ οἶον μὴδὲν εἶναι, μὴδ' αἰσθησὶν μηδεμίαν μηδενὸς ἔχειν τὸν τεθνεῶτα, ἡ κατὰ τὰ λεγόμενα μεταβολὴ τις τυγχάνει οὐσα καὶ μετοίκησις τῇ ψυχῇ τοῦ τόπου τοῦ ἐνθένδε εἰς ἄλλον τόπον. καὶ εἴτε μηδεμία αἰσθησίς ἐστιν, ἀλλ' οἶον ὕπνος ἐπειδάν τις καθεύδων μὴδ' ὄναρ μὴδὲν ὄρα, θαυμάσιον κέρδος ἂν εἴη ὁ θάνατος. . . . εἰ δ' αὖ οἶον ἀποδημῆσαι ἐστὶν ὁ θάνατος ἐνθένδε εἰς ἄλλον τόπον καὶ ἀληθὴ ἐστὶ τὰ λεγόμενα, ὡς ἄρα ἐκεῖ εἰσὶν ἅπαντες οἱ τεθνεῶτες, τί μείζον ἀγαθὸν τούτου εἴη ἂν, ὃ ἄνδρες δικασταί;

How is the first conclusion, θαυμάσιον . . . θάνατος, proved? How the second, τί . . . ἂν?

5. Translate (*Hdt.* VII. 188):—

αἱ μὲν δὴ πρῶται τῶν νεῶν ὥρμεον πρὸς γῆν, ἄλλαι δ' ἐπ' ἐκείνησι ἐπ' ἀγκυρέων· ἅτε γὰρ τοῦ αἰγιαλοῦ ἐόντος οὐ μεγάλου, πρόκροσσαι ὥρμεοντο ἐς πόντον καὶ ἐπὶ ὀκτῶ νέας. ταύτην μὲν τὴν εὐφρόνην οὕτω· ἅμα δὲ ὄρθρῳ, ἐξ αἰθρίης τε καὶ νηνεμίας τῆς θαλάσσης ζεσάσης, ἐπέπεσε σφί χειμῶν τε μέγας καὶ πολλὸς ἄνεμος ἀπηλιώτης, τὸν

δὴ Ἑλλησποντίην καλέουσι οἱ περὶ ταῦτα τὰ χωρία οἰκη-  
 μένοι. ὅσοι μὲν νῦν αὐτῶν αὐξόμενον ἔμαθον τὸν ἄνεμον,  
 καὶ τοῖσι οὕτω εἶχε ὄρμου, οἱ δ' ἔφθησαν τὸν χειμῶνα  
 ἀνασπάσαντες τὰς νέας, καὶ αὐτοὶ τε περιῆσαν καὶ αἱ νέες  
 αὐτῶν· ὅσας δὲ τῶν νεῶν μεταρσίας ἔλαβε, τὰς μὲν ἐξέ-  
 φερε πρὸς Ἴπνου καλεομένους τοὺς ἐν Πηλίῳ, τὰς δὲ ἐς  
 τὸν αἰγιαλόν.

Where did this event take place?

[Begin a new page of the writing paper.]

#### GRAMMAR QUESTIONS ON THE FOREGOING.

1. Construction of ἀδικηθείς (line 1). Complete the sentence ἡ γὰρ ἀνάγκη. To what verb does the negative in οὐδέ belong?

2. Construction of βασιλεί, of τῆς ἀρχῆς, and of τούτου. What other form of ὅτου exists? What is the construction of the antecedent of ὅτου? What two forms of condition are illustrated in this passage?

3. Construction of τῇ πόλει, λίθου, ποδῶν. Where is ἐάλω found, and from what present?

4. Explain the form θάτερον, the attraction in ἐνθένδε (line 5), the accent of εἰσίν.

5. Make a list of the Ionic forms, with the corresponding Attic in each case. Point out the two supplementary participles. Where does the apodosis of the relative clause ὅσοι μὲν κτλ. begin?

1880.

[Any two passages may be omitted.]

1. Translate (Xen. An. I. 4, 11) :—

καὶ Κῦρος μεταπεμφάμενος τοὺς στρατηγοὺς τῶν Ἑλ-  
 λήνων ἔλεγεν ὅτι ἡ ὁδὸς ἔσοιτο πρὸς βασιλέα μέγαν εἰς

Βαβυλῶνα· καὶ κελεύει αὐτοὺς λέγειν ταῦτα τοῖς στρατιώταις καὶ ἀναπείθειν ἔπεσθαι. οἱ δὲ ποιήσαντες ἐκκλησίαν ἀπήγγελλον ταῦτα· οἱ δὲ στρατιῶται ἐχαλέπαινον τοῖς στρατηγοῖς, καὶ ἔφασαν αὐτοὺς πάλαι ταῦτ' εἰδότας κρύπτειν, καὶ οὐκ ἔφασαν ἰέναι ἔαν μὴ τις αὐτοῖς χρήματα διδῶ, ὥσπερ καὶ τοῖς προτέροις μετὰ Κύρου ἀναβάσι παρὰ τὸν πατέρα τοῦ Κύρου, καὶ ταῦτα οὐκ ἐπὶ μάχην ἰόντων ἀλλὰ καλοῦντος τοῦ πατρὸς Κύρου.

What would be the forms used in direct discourse for ἔσοιτο and ἰέναι? What would be the usual indirect form for ἔαν . . . διδῶ? Construction and subject of ἰόντων.

2. Translate (*Xen. An. II. 4, 6*):—

ποταμὸς δ' εἰ μὲν τις καὶ ἄλλος ἄρα ἡμῖν ἐστι διαβατέος οὐκ οἶδα· τὸν δ' οὖν Εὐφράτην οἶδαμεν ὅτι ἀδύνατον διαβῆναι κωλυόντων πολεμίων. οὐ μὲν δὴ, ἂν μάχεσθαι γε δέη, ἱππεῖς εἰσιν ἡμῖν ξύμμαχοι, τῶν δὲ πολεμίων ἱππεῖς εἰσιν οἱ πλείστοι καὶ πλείστου ἄξιοι· ὥστε νικῶντες μὲν τίνα ἂν ἀποκτείναιμεν; ἡττωμένων δὲ οὐδένα οἶόν τε σωθῆναι.

Construction of ἡμῖν (line 1), of τὸν Εὐφράτην. What is the condition of ἂν ἀποκτείναιμεν? Expand ἡττωμένων into a conditional clause.

3. Translate (*Xen. An. III. 4, 19*):—

ἐνθα δὲ οἱ Ἕλληνες ἔγνωσαν ὅτι πλαίσιον ἰσόπλευρον πονηρὰ τάξις εἴη πολεμίων ἐπομενων. . . . ἐπεὶ δὲ ταῦτα ἔγνωσαν οἱ στρατηγοί, ἐποιήσαντο ἕξ λόχους ἀνὰ ἑκατὸν ἄνδρας, καὶ λοχαγοὺς ἐπέστησαν καὶ ἄλλους πεντηκοντήρας καὶ ἄλλους ἐνωμοτάρχας. οὗτοι δὲ πορευόμενοι οἱ λοχαγοί, ὁπότε μὲν συγκύπτοι τὰ κέρατα, ὑπέμενον ὥστεροι, ὥστε μὴ ἐνοχλεῖν τοῖς κέρασι, τότε δὲ παρήγον ἔξωθεν

τῶν κεράτων. ὁπότε δὲ διάσχοιεν αἱ πλευραὶ τοῦ πλαισίου, τὸ μέσον ἀνεξεπίμπλασαν, εἰ μὲν στενότερον εἴη τὸ διέχον, κατὰ λόχους, εἰ δὲ πλατύτερον, κατὰ πεντηκοστῆς, εἰ δὲ πάνυ πλατὺ, κατ' ἐνωμοτίας.

What were the disadvantages of the πλαίσιον ἰσόπλευρον? Describe the different formations indicated by κατὰ λόχους, κατὰ πεντηκοστῆς, κατ' ἐνωμοτίας. In what tense, and from what present, is ἐπέστησαν? Peculiarity of form in στενότερον.

4. Translate (*Xen. An.* IV. 3, 10) : —

καὶ ἀριστῶντι τῷ Ξενοφῶντι προσέτρεχον δύο νεανίσκω· ἦδεσαν γὰρ πάντες ὅτι ἐξείη αὐτῷ καὶ ἀριστῶντι καὶ δειπνοῦντι προσελθεῖν καὶ, εἰ καθεύδοι, ἐπεγείραντα εἰπεῖν, εἴ τις τι ἔχοι τῶν πρὸς τὸν πόλεμον. . . . ἐκδύντες δ' ἔφασαν ἔχοντες τὰ ἐγχειρίδια γυμνοὶ ὥς νευσόμενοι διαβαίνειν· πορευόμενοι δὲ πρόσθεν διαβῆναι πρὶν βρέξαι τὰ αἰδοῖα. εὐθύς οὖν ὁ Ξενοφὼν αὐτὸς τε ἔσπενδε καὶ τοῖς νεανίσκοις ἐγγεῖν ἐκέλευε καὶ εὔχεσθαι τοῖς φήνασι θεοῖς τά τε ὀνειράτα καὶ τὸν πόρον, καὶ τὰ λοιπὰ ἀγαθὰ ἐπιτελέσαι.

Rule for the optative in ἐξείη, for the accusative in ἐπεγείραντα, for the nominative in ἐκδύντες. What was the dream referred to?

5. Translate (*Hdt.* VI. 117) : —

συνήνεικε δὲ αὐτόθι θωῦμα γενέσθαι τοιόνδε· Ἀθηναῖον ἄνδρα Ἐπίζηλον τὸν Κουφαγόρεω, ἐν τῇ συστάσει μαχόμενόν τε καὶ ἄνδρα γινόμενον ἀγαθόν, τῶν ὁμμάτων στερηθῆναι, οὔτε πληγέντα οὐδὲν τοῦ σώματος οὔτε βληθέντα, καὶ τὸ λοιπὸν τῆς ζῆς διατελέειν ἀπὸ τούτου τοῦ χρόνου ἔοντα τυφλόν. λέγειν δὲ αὐτὸν ἤκουσα περὶ τοῦ πάθεος

τοιόνδε τινὰ λόγον, ἄνδρα οἱ δοκέειν ὀπλίτην ἀντιστῆναι μέγαν, τοῦ τὸ γένειον τὴν ἀσπίδα πᾶσαν σκιάζειν· τὸ δὲ φᾶσμα τοῦτο ἑωυτὸν μὲν παρεξελθεῖν, τὸν δὲ ἑωυτοῦ παραστάτην ἀποκτεῖναι.

Make a list of the Ionic forms in this passage, adding in each case the Attic form with accents. Difference of meaning between *πληγέнта* and *βληθέντα*.

Describe the bridge over the Hellespont. Why were not the Spartans present at the battle of Marathon?

## 1881.

1. Translate (*Xen. An. I. 4, 8*):—

Κῦρος δὲ συγκαλέσας τοὺς στρατηγούς εἶπεν· ἀπολελοίπασιν ἡμᾶς Ξενίας καὶ Πασίων. ἀλλ' εὖ γε μέντοι ἐπιστάσθωσαν ὅτι οὔτε ἀποδεδράκασιν· οἶδα γὰρ ὅπη οἴχονται· οὔτε ἀποπεφεύγασιν· ἔχω γὰρ τριήρεις ὥστε ἐλεῖν τὸ ἐκείνων πλοῖον. ἀλλὰ μὰ τοὺς θεοὺς οὐκ ἔγωγε αὐτοὺς διώξω, οὐδ' ἐρεῖ οὐδεὶς, ὡς ἐγὼ, ἕως μὲν ἂν παρῇ τις, χρώμαι, ἐπειδὰν δὲ ἀπιέναι βούληται, συλλαβὼν καὶ αὐτοὺς κακῶς ποιῶ καὶ τὰ χρήματα ἀποσυλῶ. ἀλλὰ ἰόντων, εἰδότες ὅτι κακίους εἰσὶ περὶ ἡμᾶς ἢ ἡμεῖς περὶ ἐκείνους.

What distinction does Xenophon here make between *ἀποδιδράσκω* and *ἀποφεύγω*? Why does he use *μά* and not *νῆ* before *τοὺς θεοὺς*? Rule for the mode in *παρῇ*. Where is *ἰόντων* found, and from what verb? For what longer form does *κακίους* stand? At what point in the march did this desertion take place?

2. Translate (*Xen. An. II. 3, 10*):—

καὶ ἐνετύγχανον τάφροις καὶ αὐλῶσιν ὕδατος πλήρεις, ὡς μὴ δύνασθαι διαβαίνειν ἄνευ γεφυρῶν· ἀλλ' ἐποιοῦντο

διαβάσεις ἐκ τῶν φοινίκων οἱ ἦσαν ἐκπεπτωκότες, τοὺς δὲ καὶ ἐξέκοπτον. καὶ ἐνταῦθα ἦν Κλέαρχον καταμαθεῖν ὡς ἐπεστάτει, ἐν μὲν τῇ ἀριστερᾷ χειρὶ τὸ δόρυ ἔχων, ἐν δὲ τῇ δεξιᾷ βακτηρίαν· καὶ εἴ τις αὐτῷ δοκοίη τῶν πρὸς τοῦτο τεταγμένων βλακεύειν, ἐκλεγόμενος τὸν ἐπιτήδειον ἔπαισεν αὐν, καὶ ἅμα αὐτὸς προσελάμβανεν εἰς τὸν πηλὸν ἐμβαίνων· ὥστε πᾶσιν αἰσχύνην εἶναι μὴ οὐ συσπουδάξειν.

Why is there an article with δόρυ but none with βακτηρίαν? Explain the mode in δοκοίη, and the mode and tense in ἔπαισεν αὐν. What sort of pronoun is αὐτός as here used? Tell what is known of the life and death of Klearchos.

3. Translate (*Xen. An. III. 5, 7*):—

καὶ ἐνταῦθα πολλὴ ἀπορία ἦν. ἔνθεν μὲν γὰρ ὄρη ἦν ὑπερύψηλα, ἔνθεν δὲ ὁ ποταμὸς τοσοῦτος τὸ βάθος ὡς μηδὲ τὰ δόρατα ὑπερέχειν πειρωμένοις τοῦ βάθους. ἀπορουμένοις δ' αὐτοῖς προσελθὼν τις ἀνὴρ Ῥόδιος εἶπεν· ἐγὼ θέλω, ὦ ἄνδρες, διαβιβάσαι ὑμᾶς κατὰ τετρακισχιλίους ὀπλίτας, ἂν ἐμοὶ ὧν δέομαι ὑπηρετήσητε καὶ τάλαντον μισθὸν πορίσητε. ἐρωτώμενος δὲ ὅτου δέοιτο, ἀσκῶν, ἔφη, δισχιλίων δεήσομαι· πολλὰ δ' ὀρώ ταῦτα πρόβατα καὶ αἰγας καὶ βούς καὶ ὄνους, ἃ ἀποδαρέντα καὶ φυσηθέντα ῥαδίως ἂν παρέχοι τὴν διάβασιν. . . . ὅτι μὲν οὖν οὐ καταδύσεσθε αὐτίκα μάλα εἴσεσθε· πᾶς γὰρ ἀσκὸς δύο ἄνδρας ἔξει τοῦ μὴ καταδύναι· ὥστε δὲ μὴ ὀλισθάνειν ἡ ὕλη καὶ ἡ γῆ σχήσει.

What was the ordinary length of the Greek spear? Construction of τοῦ βάθους, of μισθόν, of ὅτου. For what longer form does ὅτου stand? Explain the mode in δέοιτο. How may the gender of ἃ be accounted for?

4. Translate (*Xen. An. IV, 6, 17*) : —

ἐγὼ μὲν τοίνυν, ἔφη ὁ Ξενοφῶν, ἔτοιμός εἰμι τοὺς ὀπι-  
σθοφύλακας ἔχων, ἐπειδὰν δειπνήσωμεν, ἰέναι καταληψό-  
μενος τὸ ὄρος. ἔχω δὲ καὶ ἡγεμόνας· οἱ γὰρ γυμνῆτες  
τῶν ἐφεπομένων ἡμῖν κλωπῶν ἔλαβόν τινας ἐνεδρεύσαν-  
τες· καὶ τούτων πυνθάνομαι, ὅτι οὐκ ἄβατόν ἐστι τὸ ὄρος,  
ἀλλὰ νέμεται αἰξί καὶ βουσίν· ὥστε, ἐάνπερ ἄπαξ λάβω-  
μέν τι τοῦ ὄρους, βατὰ καὶ τοῖς ὑποζυγίοις ἔσται. ἐλπίζω  
δὲ οὐδὲ τοὺς πολεμίους μενεῖν ἔτι, ἐπειδὰν ἴδωσιν ἡμᾶς ἐν  
τῷ ὁμοίῳ ἐπὶ τῶν ἀκρῶν· οὐδὲ γὰρ νῦν ἐθέλουσι καταβαί-  
νειν ἡμῖν εἰς τὸ ἴσον.

Explain the mode in δειπνήσωμεν. Present and perfect of καταληψόμενος. Construction of τούτων; of ἡμῖν. How did Xenophon come to be in command? Who else was associated with him?

[This may be substituted for 3 and 4 above.]

5. Translate (*Hdt. VI. 104*) : —

ἦγον δὲ σφεας στρατηγοὶ δέκα, τῶν ὁ δέκατος ἦν Μιλτιάδης, τοῦ τὸν πατέρα Κίμωνα τὸν Στῆσαγόρεω κατέλαβε φυγεῖν ἐξ Ἀθηνέων Πεισίστρατον τὸν Ἰπποκράτεος. οὗτος δὴ ὦν τότε ὁ Μιλτιάδης, ἦκων ἐκ τῆς Χερσονήσου καὶ ἐκπεφευγὼς διπλόον θάνατον, ἐστρατήγεε Ἀθηναίων· ἅμα μὲν γὰρ οἱ Φοίνικες αὐτὸν οἱ ἐπιδιώξαντες μέχρι Ἴμβρου, περὶ πολλοῦ ἐποιεῦντο λαβεῖν τε καὶ ἀναγαγεῖν παρὰ βασιλέα· ἅμα δὲ ἐκφυγόντα τε τούτους καὶ ἀπικό-  
μενον ἐς τὴν ἑαυτοῦ, δοκέοντά τε εἶναι ἐν σωτηρίῃ ἤδη, τὸ ἐνθευτέν μιν οἱ ἐχθροὶ ὑποδεξάμενοι καὶ ὑπὸ δικαστήριον αὐτὸν ἀγαγόντες ἐδίωξαν τυραννίδος τῆς ἐν Χερσονήσου. ἀποφυγὼν δὲ καὶ τούτους, στρατηγὸς οὕτω Ἀθηναίων ἀπεδέχθη, αἰρεθεὶς ὑπὸ τοῦ δήμου.

Make a list of the Ionic forms in this passage, adding in each case the Attic form, with accents. Where was Imbros? Construction of *ἔωντοῦ*; of *τυραννίδος*.

## 1882.

1. Translate (*Xen. An. I. 3, 20*):—

ἔδοξε ταῦτα, καὶ ἄνδρας ἐλόμενοι σὺν Κλεάρχῳ πέμπουσιν, οἳ ἡρώτων Κῦρον τὰ δόξαντα τῇ στρατιᾷ. ὁ δ' ἀπεκρίνατο, ὅτι ἀκούοι Ἀβροκόμαν, ἐχθρὸν ἄνδρα, ἐπὶ τῷ Εὐφράτῃ ποταμῷ εἶναι, ἀπέχοντα δώδεκα σταθμούς· πρὸς τοῦτον οὖν ἔφη βούλεσθαι ἐλθεῖν· κἂν μὲν ἦ ἐκεῖ, τὴν δίκην ἔφη χρῆζειν ἐπιθεῖναι αὐτῷ, ἣν δὲ φεύγῃ, ἡμεῖς ἐκεῖ πρὸς ταῦτα βουλευσόμεθα. ἀκούσαντες δὲ ταῦτα οἱ αἵρετοὶ ἀπαγγέλλουσι τοῖς στρατιωταῖς· τοῖς δὲ ὑποψία μὲν ἦν, ὅτι ἄγει πρὸς βασιλέα, ὅμως δὲ ἐδόκει ἔπεσθαι.

Construction of *τὰ δόξαντα*. Rule for mode in *ἀκούοι*. Form of condition in *ἣν δὲ . . . βουλευσόμεθα*. Where did Cyrus die? Date of his expedition.

2. Translate (*Xen. An. II. 4, 15*):—

μετὰ δὲ τὸ δεῖπνον ἔτυχον ἐν περιπάτῳ ὄντες πρὸ τῶν ὀπλων Πρόξενος καὶ Ξενοφῶν· καὶ προσελθὼν ἄνθρωπός τις ἡρώτησε τοὺς προφύλακας ποῦ ἂν ἴδοι Πρόξενον ἢ Κλεάρχον· ἐπεὶ δὲ Πρόξενος εἶπεν ὅτι αὐτός εἰμι ὃν ζητεῖς, εἶπεν ὁ ἄνθρωπος τάδε· Ἐπεμψέ με Ἀριαῖος καὶ Ἀρτάξος, πιστοὶ ὄντες Κύρῳ καὶ ὑμῖν εὖνοι, καὶ κελεύουσι φυλάττεσθαι, μὴ ὑμῖν ἐπιθῶνται τῆς νυκτὸς οἱ βάρβαροι· ἔστι δὲ στράτευμα πολὺ ἐν τῷ πλησίον παραδείσῳ. καὶ ἐπὶ τὴν γέφυραν τοῦ Τίγρητος ποταμοῦ πέμψαι κελεύουσι φυλακὴν, ὥς διανοεῖται αὐτὴν λῦσαι Τισσαφέρνῃς τῆς νυκτός, ἐὰν δύνῃται, ὥς μὴ διαβῇτε ἄλλ' ἐν μέσῳ ἀποληφθῇτε τοῦ ποταμοῦ καὶ τῆς διώρυχος.



Construction of τῆς νυκτός; of πλησίον. Which of the participles in this passage are circumstantial and which supplementary? Sketch the life and character of Proxenos.

3. Translate (*Xen. An. III. 4, 34*):—

ἡνίκα δ' ἦν ἤδη δέλλη, ὥρα ἦν ἀπιέναι τοῖς πολεμίοις· οὐποτε γὰρ μείον ἀπεστρατοπεδεύοντο οἱ βάρβαροι τοῦ Ἑλληνικοῦ ἐξήκοντα σταδίων, φοβούμενοι μὴ τῆς νυκτός οἱ Ἕλληνες ἐπιθῶνται αὐτοῖς. πονηρὸν γὰρ νυκτός ἐστι στρατεύμα Περσικόν· οἳ τε γὰρ ἵπποι αὐτοῖς δέδενται καὶ ὥς ἐπὶ τὸ πολὺ πεποδισμένοι εἰσὶ τοῦ μὴ φεύγειν ἕνεκα εἰ λυθείησαν, εἰάν τέ τις θόρυβος γίγνηται, δεῖ ἐπισάξαι τὸν ἵππον Πέρσῃ ἀνδρὶ καὶ χαλινῶσαι δεῖ καὶ θωρακισθέντα ἀναβῆναι ἐπὶ τὸν ἵππον. ταῦτα δὲ πάντα χαλεπὰ νύκτωρ καὶ θορύβου ὄντος.

Construction of τοῦ Ἑλληνικοῦ; of σταδίων. What other case would be more usual than ἀνδρὶ in such a connection? What distance is indicated by ἐξήκοντα σταδίων?

4. Translate (*Xen. An. IV. 5, 7*)—

ἐντεῦθεν δὲ τὴν ἐπιούσαν ἡμέραν ὅλην ἐπορεύοντο διὰ χιόνος καὶ πολλοὶ τῶν ἀνθρώπων ἐβουλιμίαςαν. Ξενοφῶν δ' ὀπισθοφυλακῶν καὶ καταλαμβάνων τοὺς πίπτοντας τῶν ἀνθρώπων ἡγνύει ὃ, τι τὸ πάθος εἴη. ἐπειδὴ δὲ εἶπέ τις αὐτῷ τῶν ἐμπείρων ὅτι σαφῶς βουλιμιῶσι, κἂν τι φάγωσιν, ἀναστήσονται, περιῶν περὶ τὰ ὑποζύγια, εἴ ποῦ τι ὀρώη βρωτόν, διεδίδου καὶ διέπεμπε διδόντας τοὺς δυναμένους παρατρέχειν τοῖς βουλιμιῶσιν.

Construction of ἡμέραν; of τῶν ἐμπείρων. Rule for the mode in εἴη; in ὀρώη. Derivation of ἐβουλιμίαςαν, and composition of its primitive.

[Either of the following may be substituted for either of the preceding passages.]

5. Translate (*Xen. An.* V. 6, 11) :—

ἐπεὶ δὲ ταῦτα ἔλεξεν, οἱ μὲν ὑπώπτενον φιλίας ἔνεκα τῆς Κορύλα λέγειν· καὶ γὰρ ἦν πρόξενος αὐτῷ· οἱ δὲ καὶ ὥς δῶρα ληψόμενον διὰ τὴν ξυμβουλὴν ταύτην· οἱ δὲ ὑπώπτενον καὶ τούτου ἔνεκα λέγειν, ὥς μὴ πεζῇ ἰόντες τὴν Σινωπέων τι χώραν κακὸν ἐργάζοιντο. οἱ δ' οὖν Ἕλληνες ἐψηφίσαντο κατὰ θάλατταν τὴν πορείαν ποιεῖσθαι. μετὰ ταῦτα Ξενοφῶν εἶπεν· ὦ Σινωπεῖς, οἱ μὲν ἄνδρες ἤρηνται πορείαν ἣν ὑμεῖς ξυμβουλευέτε· οὕτω δὲ ἔχει· εἰ μὲν πλοῖα ἔσεσθαι μέλλει ἱκανὰ ἀριθμῷ ὥς ἓνα μὴ καταλείπεσθαι ἐνθάδε, ἡμεῖς δὲ πλείοιμεν ἂν· εἰ δὲ μέλλοιμεν οἱ μὲν καταλείπεσθαι οἱ δὲ πλεύσεσθαι, οὐκ ἂν ἐμβαίημεν εἰς τὰ πλοῖα. γιγνώσκουμεν γὰρ ὅτι, ὅπου μὲν ἂν κρατῶμεν, δυναίμεθ' ἂν καὶ σώζεσθαι καὶ τὰ ἐπιτήδεια ἔχειν· εἰ δέ που ἡττοὺς τῶν πολεμίων ληφθησόμεθα, εὐδηλον δὴ ὅτι ἐν ἀνδραπόδων χώρᾳ ἐσόμεθα.

Construction of ληψόμενον; of τὴν Σιν. χώραν; of τῶν πολεμίων. Present of ἤρηνται; of πλεύσεσθαι. Who was the speaker to whom ἔλεξεν refers? Where was Sinope? How and whither did the Greeks go from it?

6. Translate (*Xen. Hell.* II. 3, 56) :—

οἱ δ' ἀπήγαγον τὸν ἄνδρα διὰ τῆς ἀγορᾶς, μάλα μεγάλη τῇ φωνῇ δηλοῦντα οἷα ἔπασχε. λέγεται δὲ ἐν ῥῆμα καὶ τοῦτο αὐτοῦ· ὥς εἶπεν ὁ Σάτυρος ὅτι οἰμώξειτο εἰ μὴ σιωπήσειεν, ἐπῆρετο· Ἄν δὲ σιωπῶ οὐκ ἄρα, ἔφη, οἰμώξομαι; καὶ ἐπεὶ γε ἀποθνήσκειν ἀναγκαζόμενος τὸ κώνειον ἔπие, τὸ λειπόμενον ἔφασαν ἀποκοτταβίσαντα εἰπεῖν αὐτόν· Κριτίᾳ τοῦτ' ἔστω τῷ καλῷ. καὶ τοῦτο μὲν οὐκ ἄγνωθόν, ὅτι ταῦτα ἀποφθέγματα οὐκ ἀξιόλογα·

ἐκείνο δὲ κρίνω τοῦ ἀνδρὸς ἀγαστόν, τὸ τοῦ θανάτου παρεστηκότος μήτε τὸ φρόνιμον μήτε τὸ παιγνιώδες ἀπολιπεῖν ἐκ τῆς ψυχῆς.

Construction of τοῦ ἀνδρός. Change the sentence ὅτι . . . σιωπήσειεν into the form of *oratio recta*. Present of ἐπῆρετο. Tense of ἐπε. Who was this man, and what was his history?

7. Translate (*Hdt.* VII. 144) : —

ἐτέρη τε Θεμιστοκλεί γνώμη ἔμπροσθε ταύτης ἐς καιρὸν ἡρίστευσε, ὅτε, Ἀθηναίοισι γενομένων χρημάτων μεγάλων ἐν τῷ κοινῷ, τὰ ἐκ τῶν μετάλλων σφι προσήλθε τῶν ἀπὸ Λαυρείου, ἔμελλον λάξεσθαι ὀρχηδὸν ἕκαστος δέκα δραχμάς. τότε Θεμιστοκλῆς ἀνέγνωσε Ἀθηναίους, τῆς διαιρέσιος ταύτης παυσαμένους, νέας τούτων τῶν χρημάτων ποιήσασθαι διηκοσίας ἐς τὸν πόλεμον, τὸν πρὸς Αἰγινίτας λέγων. οὗτος γὰρ ὁ πόλεμος συστάς ἔσωσε τότε τὴν Ἑλλάδα, ἀναγκάσας θαλασσίους γενέσθαι Ἀθηναίους. αἱ δὲ ἐς τὸ μὲν ἐποιήθησαν οὐκ ἐχρήσθησαν, ἐς δέον δὲ οὕτω τῇ Ἑλλάδι ἐγένοντο. αὐταί τε δὴ αἱ νέες τοῖσι Ἀθηναίοισι προποιοθεῖσαι ὑπῆρχον, ἐτέρας τε ἔδεε προσναυπηγέεσθαι.

Make a list of the Ionic forms, adding in each case the Attic form, with accents. Where was Laurion? How much was δέκα δραχμαί? What difficulties are in the way of taking this account literally?

1883.

[Any two of the passages may be omitted.]

1. Translate (*Xen. An.* I. 7, 3) : —

Κύρος δὲ συγκαλέσας τοὺς στρατηγούς τῶν Ἑλλήνων συνεβουλεύετό τε πῶς ἂν τὴν μάχην ποιοῖτο καὶ αὐτὸς

παρῆναι θαρρύνων τοιάδε· Ὡς ἄνδρες Ἕλληνες, οὐκ ἀνθρώπων ἀπορῶν βαρβάρων συμμάχους ὑμᾶς ἄγω, ἀλλὰ νομίζω ἀμείνους καὶ κρείττους πολλῶν βαρβάρων ὑμᾶς εἶναι, διὰ τοῦτο προσέλαβον. ὅπως οὖν ἔσσεσθε ἄνδρες ἄξιοι τῆς ἐλευθερίας ἣς κέκτησθε καὶ ἣς ὑμᾶς ἐγὼ εὐδαιμονίζω. εὖ γὰρ ἴστε ὅτι τὴν ἐλευθερίαν ἐλοίμην ἂν ἀνθρώπων ἔχω πάντων. ὅπως δὲ καὶ εἰδῆτε εἰς οἶον ἔρχεσθε ἀγῶνα, ὑμᾶς εἰδὼς διδάξω.

Construction of ἀνθρώπων, συμμάχους, ὧν. To what does τοῦτο refer? Meaning of the preposition in προσέλαβον. Explain the difference between the two uses of ὅπως in the passage.

2. Translate (Xen. An. II. 5, 32 f.) :—

οὐ πολλῷ δὲ ὕστερον ἀπὸ τοῦ αὐτοῦ σημείου οἳ τ' ἔνδον συνελαμβάνοντο καὶ οἱ ἔξω κατεκόπησαν. μετὰ δὲ ταῦτα τῶν βαρβάρων τινὲς ἰππέων διὰ τοῦ πεδίου ἐλαύνοντες ὧτινι ἐντυγχάνοιεν Ἕλληνι ἢ δούλῳ ἢ ἐλευθέρῳ πάντας ἔκτεινον. οἱ δὲ Ἕλληνες τὴν τε ἰππασίαν αὐτῶν ἐθαύμαζον ἐκ τοῦ στρατοπέδου ὀρώντες καὶ ὃ τι ἐποίουν ἡμφεγνόουν, πρὶν Νίκارχος Ἀρκὰς ἦκε φεύγων τετρωμένος εἰς τὴν γαστέρα καὶ τὰ ἔντερα ἐν ταῖς χερσὶν ἔχων καὶ εἶπε πάντα τὰ γεγενημένα.

Construction of πολλῷ, αὐτῶν. Peculiarity of form in ἡμφεγνόουν. Use of the mode in ἐντυγχάνοιεν. What would ἐποίουν be in indirect discourse? What is referred to in πάντα τὰ γεγενημένα?

3. Translate (Xen. An. III. 2, 2 f.) :—

ὧς ἄνδρες στρατιῶται, χαλεπὰ μὲν τὰ παρόντα, ὅποτε ἀνδρῶν στρατηγῶν τοιούτων στερόμεθα, πρὸς δ' ἔτι καὶ οἱ ἀμφὶ Ἀριαῖον οἱ πρόσθεν σύμμαχοι ὄντες προδεδώκασιν

ἡμᾶς· ὁμῶς δὲ δεῖ ἐκ τῶν παρόντων ἄνδρας ἀγαθοὺς τελέθειν καὶ μὴ ὑφίεσθαι, ἀλλὰ πειρᾶσθαι ὅπως ἦν μὲν δυνώμεθα καλῶς νικῶντες σωζώμεθα· εἰ δὲ μὴ, ἀλλὰ καλῶς γε ἀποθνήσκωμεν, ὑποχείριοι δὲ μηδέποτε γενώμεθα ζῶντες τοῖς πολεμίοις. οἶμαι γὰρ ἂν ἡμᾶς τοιαῦτα παθεῖν οἷα τοὺς ἐχθροὺς οἱ θεοὶ ποιήσειαν.

Construction of ἄνδρας, τοὺς ἐχθροὺς. What part of speech is πρὸς here? Point out the attributive and circumstantial participles. With what does ἂν belong?

4. Translate (*Xen. An. IV. 7, 15 f.*):—

ἐντεῦθεν ἐπορεύθησαν διὰ Χαλύβων. οὗτοι ἦσαν ὧν διήλθον ἀλκιμώτατοι, καὶ εἰς χεῖρας ἦσαν. εἶχον δὲ θώρακας λινοὺς μέχρι τοῦ ἥτρου, ἀντὶ δὲ τῶν πτερύγων σπάρτα πυκνὰ ἐστραμμένα. εἶχον δὲ καὶ κνημίδας καὶ κράνη, καὶ παρὰ τὴν ζώνην μαχαίριον ὅσον ξυήλην Λακωνικὴν, ᾧ ἔσφαττον ὧν κρατεῖν δύναιντο, καὶ ὑποτέμνοντες ἂν τὰς κεφαλὰς ἔχοντες ἐπορεύοντο, καὶ ἦδον καὶ ἐχόρευον ὅποτε οἱ πολέμιοι αὐτοὺς ὄψεσθαι ἔμελλον. εἶχον δὲ καὶ δόρυ ὡς πεντεκαίδεκα πήχεων, μίαν λόγχην ἔχον.

Construction of ξυήλην, πήχεων. With what does ἂν belong? In what respects did the Greek spear differ from this one? How long, in time and distance, was the return march from Kunaxa to the sea?

5. Translate (*Xen. Hellen. II. 3*):—

ἃ δ' αὖ εἶπεν, ὡς ἐγὼ εἰμι οἷος αἰεὶ ποτε μεταβάλλεσθαι, κατανοήσατε καὶ ταῦτα. τὴν μὲν γὰρ τῶν τετρακοσίων πολιτείαν καὶ αὐτὸς δήπου ὁ δῆμος ἐψηφίσατο, διδασκόμενος ὡς οἱ Λακεδαιμόνιοι πάσῃ πολιτείᾳ μᾶλλον ἂν ἡ δημοκρατία πιστεύσειαν. ἐπεὶ δέ γε ἐκεῖνοι μὲν οὐδὲν

ἀνέσαν, οἱ δὲ ἀμφὶ Ἀριστοτέλην καὶ Μελάνθιον καὶ Ἀρίσταρχον, στρατηγοῦντες, φανεροὶ ἐγένοντο ἐπὶ τῷ χώματι ἔρυμα τειχίζοντες, ἐς δ' ἐβούλοντο τοὺς πολεμίους δεξάμενοι ὑφ' αὐτοῖς καὶ τοῖς ἐτέροις τὴν πόλιν ποιήσασθαι, — εἰ ταῦτ' αἰσθόμενος ἐγὼ διεκώλυσα, τοῦτ' ἔστι προδότην εἶναι τῶν φίλων ;

Explain the reference in τῶν τετρακοσίων. When did the event occur? Where was this χώμα? What form of conditional sentence is seen in the last clause? What nickname was given to the speaker, expressing the idea οἶος . . . μεταβάλλεσθαι?

6. Translate (*Xen. Mem. I. 1*) : —

βουλεύσας γάρ ποτε καὶ τὸν βουλευτικὸν ὄρκον ὁμόσας, ἐν ᾧ ἦν κατὰ τοὺς νόμους βουλεύσειν, ἐπιστάτης ἐν τῷ δήμῳ γενόμενος, ἐπιθυμήσαντος τοῦ δήμου παρὰ τοὺς νόμους ἐννέα στρατηγούς μιᾷ ψήφῳ τοὺς ἀμφὶ Θράσυλλον καὶ Ἑρασινίδην ἀποκτείνειν πάντας, οὐκ ἠθέλησεν ἐπιψηφίσαι, ὀργιζομένου μὲν αὐτῷ τοῦ δήμου, πολλῶν δὲ καὶ δυνατῶν ἀπειλούντων· ἀλλὰ περὶ πλείονος ἐποίησατο εὐορκεῖν ἢ χαρίσασθαι τῷ δήμῳ παρὰ τὸ δίκαιον καὶ φυλάξασθαι τοὺς ἀπειλοῦντας.

What sort of accusative is ὄρκον? In what year and after what battle did this event take place? What was the illegality in the proposed vote? From what officers was the ἐπιστάτης selected and how often?

## HOMER.

1876.

[All Greek words are to be written with accents.]

1. Translate (
- Il.*
- I. 254–258) : —

“ὦ πόποι, ἦ μέγα πένθος Ἀχαιῖδα γαῖαν ἰκάνει.  
 ἢ κεν γηθήσαι Πρίαμος Πριάμοιό τε παῖδες,  
 ἄλλοι τε Τρῶες μέγα κεν κεχαροίατο θυμῷ,  
 εἰ σφῶν τάδε πάντα πυθοίατο μαρναμένοιιν,  
 οἳ περὶ μὲν βουλὴν Δαναῶν, περὶ δ' ἔστέ μάχεσθαι.”

Make a list of the forms in these lines peculiar to Homer, adding, in each case, the corresponding Attic form.

Explain the form *κεχαροίατο*.

2. Translate (
- Il.*
- II. 142–146) : —

ὦς φάτο, τοῖσι δὲ θυμὸν ἐνὶ στήθεσσι δρῖνεν  
 πᾶσι μετὰ πληθύν, ὅσοι οὐ βουλῆς ἐπάκουσαν.  
 κινήθη δ' ἀγορὴ φῆ κύματα μακρὰ θαλάσσης,  
 πόντου Ἰκαρίοιο, τὰ μὲν τ' Εὐρὸς τε Νότος τε  
 ὥρορ' ἐπαΐξας πατρὸς Διὸς ἐκ νεφελῶν.

Mark on your writing-paper the feet of the first two lines, adding the rule for the quantity of each syllable in the second line.

What is the tense of *ὥρορε*? What is meant by *πόντου Ἰκαρίοιο*?

3. Translate (
- Il.*
- III. 295–302) : —

οἶνον δ' ἐκ κρητῆρος ἀφυσσάμενοι δεπάεσσιν  
 ἔκχεον, ἢδ' εὖχοντο θεοῖς αἰετιγενέτησιν·  
 ὦδε δὲ τις εἶπεςκεν Ἀχαιῶν τε Τρῶων τε·

“Ζεὺ κύδιστε μέγιστε, καὶ ἀθάνατοι θεοὶ ἄλλοι,  
ὀππότεροι πρότεροι ὑπὲρ ὄρκια πημήνεια,  
ὠδέ σφ’ ἐγκέφαλος χαμάδις ῥέοι ὥς ὅδε οἶνος,  
αὐτῶν καὶ τεκέων, ἄλοχοι δ’ ἄλλοισι δαμεῖεν.”

“Ὡς ἔφαν, οὐδ’ ἄρα πῶ σφιν ἐπεκραίαινε Κρονίων.

Supply what is gone from σφ’. Give the Attic prose forms for ἔκχεον, αἰειγενέτησιν, ὥς ἔφαν. Explain the mode of ῥέοι.

1877.

[All Greek words are to be written with accents.]

1. Translate (*Il. I. 274–284*) : —

“ἀλλὰ πίθεσθε καὶ ὕμμες, ἐπεὶ πείθεσθαι ἄμεινον.  
μήτε σὺν τόνδ’, ἀγαθὸς περ ἐὼν, ἀποαίρεο κούρην,  
ἀλλ’ ἔα, ὥς οἱ πρῶτα δόσαν γέρας νῆες Ἀχαιῶν·  
μήτε σὺν, Πηλεΐδῃ, θέλ’ ἐριζέμεναι βασιλῆϊ  
ἀντιβίην, ἐπεὶ οὐποθ’ ὁμοίης ἔμμορε τιμῆς  
σκηπτοῦχος βασιλεὺς, ὅτε Ζεὺς κύδος ἔδωκεν.  
εἰ δὲ σὺν κάρτερός ἐσσι, θεὰ δέ σε γείνατο μήτηρ,  
ἀλλ’ ὅγε φέρτερός ἐστιν, ἐπεὶ πλεόνεσσιν ἀνάσσει.  
Ἀτρεΐδῃ, σὺν δὲ παῦε τεὸν πένος· αὐτὰρ ἔγωγε  
λίσσομ’ Ἀχιλλῆϊ μεθέμεν χόλον, ὅς μεγα πᾶσιν  
ἔρκος Ἀχαιοῖσιν πέλεται πολέμοιο κακοῖο.”

Make a list of the Homeric forms in these lines, adding, in each case, the corresponding Attic form.

Who is referred to by θεά? What Latin form corresponds in form with τεὸν?

2. Translate (*Il. II. 339–343*) : —

“πῇ δὴ συνθεσῆναι τε καὶ ὄρκια βήσεται ἡμῖν;  
ἐν πυρὶ δὴ βουλαί τε γενοίατο μήδεά τ’ ἀνδρῶν,



σπονδαί τ' ἄκρητοι καὶ δεξιαί, ἧς ἐπέπιθμεν·  
 αὐτως γάρ ῥ' ἐπέεσσ' ἐριδαίνομεν, οὐδέ τι μῆχος  
 εὐρέμεναι δυνάμεσθα, πολὺν χρόνον ἐνθάδ' ἐόντες."

Where is ἐπέπιθμεν made? What is the derivation of σπονδαί? the reason for the gender of δεξιαί? What other forms in Homer of ἐπέεσσι? What length of time denoted by πολὺν χρόνον?

3. Translate (*Il.* III. 154–159) : —

οἱ δ' ὥς οὖν εἶδονθ' Ἑλένην ἐπὶ πύργον ἰούσαν,  
 ἦκα πρὸς ἀλλήλους ἔπεα πτερόεντ' ἀγόρευον·  
 "Οὐ νέμεσις Τρῶας καὶ εὐκνήμιδας Ἀχαιοὺς  
 τοιῇδ' ἀμφὶ γυναικὶ πολὺν χρόνον ἄλγεα πάσχειν·  
 αἰνῶς ἀθανάτησι θεῆς εἰς ὧπα ἔοικεν.  
 ἀλλὰ καὶ ὧς, τοίη περ ἐοῦσ', ἐν νηυσὶ νεέσθω."

Mark on your writing-paper the feet of the second and third lines, adding the rule for the quantity of each syllable of the third line.

1878.

[All Greek words to be written with the accent.]

1. Translate (*Il.* I. 522–528) : —

"ἀλλὰ σὺ μὲν νῦν αὖτις ἀπόστιχε, μή τι νοήσῃ  
 Ἥρῃ· ἐμοὶ δέ κε ταῦτα μελήσεται, ὄφρα τελέσσω.  
 εἰ δ' ἄγε τοι κεφαλῇ κατανεύσομαι, ὄφρα πεποίθῃς·  
 τοῦτο γὰρ ἐξ ἐμέθεν γε μετ' ἀθανάτοισι μέγιστον  
 τέκμωρ· οὐ γὰρ ἐμὸν παλινάγρετόν οὐδ' ἀπατηλὸν  
 οὐδ' ἀτελεύτητον, ὃ τι κεν κεφαλῇ κατανεύσω."  
 ἦ, καὶ κυανέησιν ἐπ' ὀφρύσι νεῦσε Κρονίων.

Make a list of the Homeric forms in these lines, adding, in each case, the corresponding Attic form. Point out the case of *tnesis*.

Who is Κρονίων, and what other form of the name occurs?



2. Translate (*Il. II.* 394–401) : —

ὥς ἔφατ', Ἀργεῖοι δὲ μέγ' ἰαχον, ὥς ὅτε κύμα  
 ἀκτῇ ἐφ' ὑψηλῇ, ὅτε κινήσῃ Νότος ἐλθὼν,  
 προβλήτῃ σκοπέλῳ· τὸν δ' οὐ ποτε κύματα λείπει  
 παντοίων ἀνέμων, ὅτ' ἂν ἔνθ' ἢ ἔνθα γένωνται.  
 ἀνστάντες δ' ὀρέοντο κεδασθέντες κατὰ νῆας,  
 κάπνισσάν τε κατὰ κλισίας, καὶ δεῖπνον ἔλοντο.  
 ἄλλος δ' ἄλλῳ ἔρεξε θεῶν αἰειγενετάων,  
 εὐχόμενος θάνατόν τε φυγεῖν καὶ μῶλον Ἄρηος.

Mark on your writing-paper the feet of the first two lines, adding the rule for the quantity of each syllable of the second line. Give, as above, the Homeric forms in the fifth line.

3. Translate (*Il. III.* 324–329, 339) : —

ὥς ἄρ' ἔφαν, πάλλεν δὲ μέγας κορυθαίολος Ἑκτωρ  
 ἀψ' ὀρώων· Πάριος δὲ θοῶς ἐκ κλῆρος ὄρουσεν.  
 οἱ μὲν ἔπειθ' ἵζοντο κατὰ στίχας ἥχι ἐκάστου  
 ἵπποι ἀερσίποδες καὶ ποικίλα τεύχε' ἔκειτο·  
 αὐτὰρ ὃ γ' ἀμφ' ὥμοισιν ἐδύσετο τεύχεα καλὰ  
 δῖος Ἀλέξανδρος, Ἑλένης πόσις ἠυκόμοιο.  
 ὥς δ' αὐτως Μενέλαος ἀρήμιος ἔντε' ἔδυνεν.

What was determined by the process described in the first two lines? Why are the words ἀψ' ὀρώων added? What was the issue of the combat that followed?

## 1879.

1. Translate (*Il. I.* 193–200) : —

ἕως ὃ ταῦθ' ὄρμαινε κατὰ φρένα καὶ κατὰ θυμόν,  
 ἔλκετο δ' ἐκ κολεοῖο μέγα ξίφος, ἦλθε δ' Ἀθήνη  
 οὐρανόθεν· πρὸ γὰρ ἦκε θεὰ λευκώλενος Ἥρη,

ἄμφω ὁμῶς θυμῷ φιλέουσά τε κηδομένη τε.  
 στῇ δ' ὀπιθεν, ξανθῆς δὲ κόμης ἔλε Πηλείωνα,  
 οἷφ φαινομένη· τῶν δ' ἄλλων οὐ τις ὄρατο.  
 θάμβησεν δ' Ἀχιλεὺς, μετὰ δ' ἐτράπετ', αὐτίκα δ'  
 ἔγνω

Παλλάδ' Ἀθηναίην· δεινὸν δέ οἱ ὄσσε φάανθεν.

Point out and explain the instance of δέ in the apodosis. Who are meant by ἄμφω (line 4)? Give the Attic forms for ὄρατο (line 6) and φάανθεν (line 8). What is the construction of κόμης (line 5)?

2. Translate (Il. II. 211-219):—

ἄλλοι μὲν ῥ' ἔζοντο, ἐρήτυθεν δὲ καθ' ἑδρας·  
 Θερσίτης δ' ἔτι μούνος ἀμετροεπῆς ἐκολῶα,  
 ὃς ῥ' ἔπεα φρεσὶν ἦσιν ἄκοσμά τε πολλά τε ἦδη,  
 μάψ, ἀτὰρ οὐ κατὰ κόσμον, ἐριζέμεναι βασιλεῦσιν,  
 ἀλλ' ὃ τί οἱ εἴσαιτο γελοίοιον Ἀργείοισιν  
 ἔμμεναι. αἰσχιστος δὲ ἀνὴρ ὑπὸ Ἴλιον ἦλθεν.  
 φορκὸς ἔην, χωλὸς δ' ἕτερον πόδα· τῷ δέ οἱ ὦμῳ  
 κυρτῷ, ἐπὶ στῆθος συνοχωκότε· αὐτὰρ ὑπερθεν  
 φοξὸς ἔην κεφαλὴν, ψεδνὴ δ' ἐπενήνοθε λάχνη.

Mark on the writing-paper the quantities of the syllables in lines 5-7, giving the reason for the variation in οἱ.

Explain the form συνοχωκότε (line 8). Why the accusative and not the dative after ὑπό (line 6)?

3. Translate (Il. III. 182-190):—

“ὦ μάκαρ Ἀτρεΐδῃ, μοιρηγενές, ὀλβιόδαιμον,  
 ἡ ρά νύ τοι πολλοὶ δεδμήατο κούροι Ἀχαιῶν.  
 ἦδη καὶ Φρυγίην εἰσήλυθον ἀμπελόεσσιν,  
 ἔνθα ἴδον πλείστους Φρύγας ἀνέρας αἰδολοπῶλους,  
 λαοὺς Ὀτρῆος καὶ Μύγδονος ἀντιθέοιο·

καὶ γὰρ ἐγὼν ἐπίκουρος ἐὼν μετὰ τοῖσιν ἐλέχθην  
 ἤματι τῷ ὅτε τ' ἦλθον Ἀμαζόνες ἀντιάνειραι·  
 ἀλλ' οὐδ' οἱ τόσοι ἦσαν ὅσοι ἐλίκωπες Ἀχαιοί."

Make a list of the dialectic peculiarities, adding, in each case, the corresponding Attic prose form. To whom does οἱ (line 8) refer?

## 1880.

1. Translate (*Il. I.* 172–181) : —

τὸν δ' ἡμείβετ' ἔπειτα ἄναξ ἀνδρῶν Ἀγαμέμνων·  
 "φεῦγε μάλ', εἴ τοι θυμὸς ἐπέσσυται· οὐδέ σ' ἔγωγε  
 λίσσομαι εἵνεκ' ἐμεῖο μένειν· πὰρ' ἔμοιγε καὶ ἄλλοι  
 οἳ κέ με τιμήσουσι, μάλιστα δὲ μητίετα Ζεὺς.  
 ἔχθιστος δέ μοι ἐσσι διοτρεφέων βασιλῆων·  
 αἰεὶ γάρ τοι ἔρις τε φίλη πόλεμοί τε μάχαι τε.  
 εἰ μάλα καρτερός ἐσσι, θεός που σοὶ τό γ' ἔδωκεν.  
 οἴκαδ' ἰὼν σὺν νηυσὶ τε σῆς καὶ σοῖς ἐτάροισιν  
 Μυρμιδόνεσσιν ἄνασσε. σέθεν δ' ἐγὼ οὐκ ἀλεγίζω,  
 οὐδ' ὀθομαι κοτέοντος."

Make a list of the Homeric forms in this passage, giving, in each case, the corresponding Attic word, with accents.

Compare ἔχθιστος, καρτερός. Where is ἐπέσσυται found, and from what present is it?

2. Translate (*Il. II.* 265–274) : —

ὧς ἄρ' ἔφη, σκήπτρῳ δὲ μετάφρενον ἠδὲ καὶ ὦμῳ  
 πλήξεν· ὁ δ' ἰδνώθη, θαλερὸν δέ οἱ ἔκφυγε δάκρυ,  
 σμῶδιξ δ' αἵματόεσσα μεταφρένου ἐξυπανέστη  
 σκήπτρου ὑπὸ χρυσεόν. ὁ δ' ἄρ' ἔξετο τάρβησέν τε,  
 ἀλγήςας δ', ἀχρεῖον ἰδὼν ἀπομόρξατο δάκρυ.  
 οἱ δὲ καὶ ἀχρύνενοί περ ἐπ' αὐτῷ ἠδὺν γέλασαν.

ὦδε δέ τις εἶπεσκεν ἰδὼν ἐς πλησίον ἄλλον·  
 “ὦ πόποι, ἦ δὴ μυρί” Ὀδυσσεὺς ἐσθλὰ ἔοργεν,  
 βουλὰς τ’ ἐξάρχων ἀγαθὰς πόλεμόν τε κορύσσων·  
 νῦν δὲ τόδε μέγ’ ἄριστον ἐν Ἀργείοισιν ἔρεξεν.”

Write out on your paper the fourth line, dividing it into feet and explaining any peculiarities of metre. Point out the metrical peculiarity in the last line. Why does not δέ, in the second line, suffer elision?

3. Translate (*Il.* III. 346–354) : —

πρόσθε δ’ Ἀλέξανδρος προῖται δολιχόσκιον ἔγχος,  
 καὶ βάλεν Ἀτρεΐδαο κατ’ ἀσπίδα πάντοσ’ εἴσην·  
 οὐδ’ ἔρρηξεν χαλκός, ἀνεγνάμφθη δέ οἱ αἰχμὴ  
 ἀσπίδ’ ἐνὶ κρατερῇ. ὁ δὲ δεύτερος ὤρνυτο χαλκῷ  
 Ἀτρεΐδης Μενέλαος, ἐπευξάμενος Διὶ πατρί·  
 “Ζεῦ ἄνα, δὸς τίσασθαι ὃ με πρότερος κάκ’ ἔοργεν,  
 δῖον Ἀλέξανδρον, καὶ ἐμῆς ὑπὸ χερσὶ δάμασσον,  
 ὄφρα τις ἐρρίγησι καὶ ὀψιγόνων ἀνθρώπων  
 ξεινοδόκον κακὰ ῥέξαι, ὃ κεν φιλότητα παράσχη.”

How was the order in which they should attack one another determined? What was the issue of the duel?

Where is ἐρρίγησι found, and from what present is it? Explain the construction in the first three words of the last line.

1881.

1. Translate (*Il.* I. 292–303) : —

τὸν δ’ ἄρ’ ὑποβλήδην ἡμείβετο δῖος Ἀχιλλεύς·  
 “ἦ γὰρ κεν δειλὸς τε καὶ οὐτιδανὸς καλεοίμην,  
 εἰ δὴ σοὶ πᾶν ἔργον ὑπείξομαι, ὅττι κεν εἴπης·  
 ἄλλοισιν δὴ ταῦτ’ ἐπιτέλλεο, μὴ γὰρ ἔμοιγε  
 σήμαιν’· οὐ γὰρ ἔγωγ’ ἔτι σοὶ πείσεσθαι ὀίω.

ἄλλο δέ τοι ἐρέω, σὺ δ' ἐνὶ φρεσὶ βάλλεο σῆσιν·  
 χερσὶ μὲν οὗτοι ἔγωγε μαχήσομαι εἵνεκα κούρης  
 οὔτε σοὶ οὔτε τῷ ἄλλῳ, ἐπεὶ μὴ ἀφέλεσθέ γε δόντες·  
 τῶν δ' ἄλλων ἃ μοὶ ἐστὶ βοῇ παρὰ νηὶ μελαίνῃ,  
 τῶν οὐκ ἂν τι φέροις ἀνελὼν ἀέκοντος ἐμεῖο.  
 εἰ δ' ἄγε μὴν πείρησαι, ἵνα γνῶωσι καὶ οἶδε·  
 αἰψά τοι αἶμα κελευνὸν ἐρωήσῃ περὶ δουρί."

Make a list of the Homeric forms in this passage, giving in each case the corresponding Attic word, with accents.

Where is *πείρησαι* found, and what in the form itself shows it? Give the present of *ὑπείξομαι*, *πείσεσθαι*, *ἀφέλεσθε*.

2. Translate (*Il. II. 188-197*) : —

ὄντινα μὲν βασιλῆα καὶ ἔξοχον ἄνδρα κιχείη,  
 τὸν δ' ἀγανοῖς ἐπέεσσιν ἐρητύσασκε παραστάς·  
 "δαιμόνι', οὐ σε ἔοικε κακὸν ὥς δειδίσσεσθαι,  
 ἀλλ' αὐτὸς τε κάθησο καὶ ἄλλους ἴδρυσ λαούς.  
 οὐ γάρ πω σάφα οἶσθ' οἷος νόος Ἀτρείωνος·  
 νῦν μὲν πειρᾶται, τάχα δ' ἴψεται νῆας Ἀχαιῶν.  
 ἐν βουλῇ δ' οὐ πάντες ἀκούσαμεν οἷον ἔειπεν.  
 μή τι χολωσάμενος ῥέξῃ κακὸν νῆας Ἀχαιῶν.  
 θυμὸς δὲ μέγας ἐστὶ διοτρεφέος βασιλῆος·  
 τιμὴ δ' ἐκ Διὸς ἐστὶ, φιλεῖ δὲ ἐμνηστία Ζεὺς."

Write out a metrical scheme of the sixth line, accounting for the quantity of each syllable. Point out the metrical peculiarity in the ninth line.

Give the Attic form for *ἐπέεσσιν*. Explain the accent on *ὥς*.

3. Translate (*Il. III. 146-153*) : —

οἱ δ' ἀμφὶ Πρίαμον καὶ Πάνθοον ἠδὲ Θυμοίτην  
 Δάμπον τε Κλυτίον θ' Ἰκετάονά τ', ὄξον Ἀρηος,  
 Οὐκαλέγων τε καὶ Ἀντήνωρ, πεπνυμένω ἄμφω,

εἶατο δημογέροντες ἐπὶ Σκαίῃσι πύλῃσιν,  
 γῆραι δὴ πολέμοιο πεπαυμένοι, ἀλλ' ἀγορηταὶ  
 ἐσθλοί, τεττίγεσσιν ἐοικότες, οἷτε καθ' ὕλην  
 δενδρέφ' ἐφεζόμενοι ὅπα λειριόεσσιν εἰῶσιν·  
 τοιοῖο ἄρα Τρώων ἡγήτορες ἦντ' ἐπὶ πύργῳ.

Point out the irregularity of syntax in the third line. Give the Attic form for τεττίγεσσιν. What is the first foot of the seventh line? What two forms of the same word in this passage?

## 1882.

1. Translate (*Il. I.* 362–5, 393–9) : —

“ τέκνον, τί κλαίεις ; τί δέ σε φρένας ἵκετο πένθος ;  
 ἐξαύδα, μὴ κεῦθε νόφ, ἵνα εἶδομεν ἄμφω.”  
 τὴν δὲ βαρυστενάχων προσέφη πόδας ὠκὺς Ἀχιλ-  
 λεύς·

“ οἶσθα· τίη τοι ταῦτα ἰδυίη πάντ' ἀγορεύω ;

ἀλλὰ σύ, εἰ δύνασαι γε, περίσχεο παιδὸς ἔηος·  
 ἐλθοῦς' Οὐλυμπόνδε Δία λίσαι, εἴποτε δὴ τι  
 ἢ ἔπει ὦνησας κραδίην Διὸς ἠὲ καὶ ἔργῳ.  
 πολλάκι γάρ σεο πατὴρ ἐνὶ μεγάροισιν ἄκουσα  
 εὐχομένης, ὅτ' ἔφησθα κελαινεφεί Κρονίωνι  
 οἷη ἐν ἀθανάτοισιν ἀεικέα λουγὸν ἀμύναι,  
 ὁππότε μιν ξυνδῆσαι Ὀλύμπιοι ἤθελον ἄλλοι.”

Give a metrical scheme of lines 7 and 8, with the rules for quantity in any notable cases. Point out what words in 8 would have a different form but for the metre.

Give the construction of φρένας (line 1), ταῦτα (line 4), σεο (line 8), Κρονίωνι (line 9).

Where found and from what present are εἶδομεν (line 2), λίσαι (line 6)? Who is meant by πατὴρ (line 8)?

2. Translate (*Il. II.* 321–332) : —

“ὥς οὖν δεινὰ πέλωρα θεῶν εἰσῆλθ’ ἐκατόμβας,  
 Κάλχας δ’ αὐτίκ’ ἔπειτα θεοπροπέων ἀγόρευεν·  
 ‘τίπτ’ ἄνεω ἐγένεσθε, καρηκομόωντες Ἀχαιοί;  
 ἡμῖν μὲν τόδ’ ἔφηνε τέρας μέγα μητίετα Ζεὺς,  
 ὄψιμον, ὀψιτέλεστον, οὐ κλέος οὐποτ’ ὀλεῖται.  
 ὥς οὗτος κατὰ τέκν’ ἔφαγε στρουθοῖο καὶ αὐτὴν,  
 ὀκτώ, ἀτὰρ μήτηρ ἐνάτη ἦν, ἥ τέκε τέκνα,  
 ὥς ἡμεῖς τοσσαῦτ’ ἔτεα πτολεμίξομεν αὐθι,  
 τῷ δεκάτῳ δὲ πόλιν αἰρήσομεν εὐρυάγυιαν.’  
 κείνος τὼς ἀγόρευε· τὰ δὲ νῦν πάντα τελεῖται.  
 ἀλλ’ ἄγε, μίμνετε πάντες, ἐκνήμιδες Ἀχαιοί,  
 αὐτοῦ, εἰσόκεν ἄστνυ μέγα Πριάμοιο ἔλωμεν.”

When did this prodigy occur, and where? What is the reference in οὗτος (line 6)? Construction of θεῶν (line 1).

Point out the Homeric forms, giving the corresponding Attic forms, in the last five lines.

3. Translate (*Il. III.* 86–94) : —

“κέκλυτέ μεν, Τρῶες καὶ ἐκνήμιδες Ἀχαιοί,  
 μῦθον Ἀλεξάνδροιο, τοῦ εἵνεκα νεῖκος ὄρωρεν.  
 ἄλλους μὲν κέλεται Τρῶας καὶ πάντας Ἀχαιοὺς  
 τεύχεα κάλ’ ἀποθέσθαι ἐπὶ χθονὶ πουλυβοτείρῃ,  
 αὐτὸν δ’ ἐν μέσσω καὶ ἀρρήφιλον Μενέλαον  
 οἶους ἀμφ’ Ἑλένη καὶ κτήμασι πᾶσι μάχεσθαι.  
 ὀππότερος δέ κε νικήσῃ κρείσσων τε γένηται,  
 κτήμαθ’ ἐλὼν εὖ πάντα γυναικὰ τε οἴκαδ’ ἀγέσθω·  
 οἱ δ’ ἄλλοι φιλότῃτα καὶ ὅρκια πιστὰ τάμωμεν.”

Where found and from what verb are κέκλυτε (line 1), ὄρωρεν (line 2)? On what does μάχεσθαι (line 6) depend? What is the origin of the metaphor in τάμωμεν (line 9)?



[The following may be substituted for either of the preceding passages.]

4. Translate (*Il.* VI. 286–296) : —

ὥς ἔφαθ', ἥ δὲ μολούσα ποτὶ μέγαρ' ἀμφιπόλοισιν  
κέκλετο· ταὶ δ' ἄρ' ἀόλλισσαν κατὰ ἄστν γεραιάς.  
αὐτὴ δ' ἐς θάλαμον κατεβήσετο κηώεντα,  
ἔνθ' ἔσαν οἱ πέπλοι παμποίκιλοι, ἔργα γυναικῶν  
Σιδονίων, τὰς αὐτὸς Ἀλέξανδρος θεοειδὴς  
ἤγαγε Σιδονίηθεν, ἐπιπλῶς εὐρέα πόντον,  
τὴν ὁδὸν ἣν Ἑλένην περ ἀνήγαγεν εὐπατέρειαν.  
τῶν ἔν' ἀειραμένη Ἑκάβη φέρε δῶρον Ἀθήνῃ,  
ὃς κάλλιστος ἔην ποικίλμασιν ἡδὲ μέγιστος  
ἀστήρ δ' ὥς ἀπέλαμπεν· ἔκειτο δὲ νείατος ἄλλων.  
βῆ δ' ἰέναι, πολλαὶ δὲ μετεσσεύοντο γεραιαί.

Explain the peculiarity of form in *κατεβήσετο* (line 3).  
Construction of *τὴν ὁδόν* (line 7), *ἄλλων* (line 10).

Point out the Homeric forms, giving the corresponding Attic forms, in the first five lines.

How does the mention of Sidon seem to bear on the date of the poem?

1883.

1. Translate (*Il.* I. 320–330) : —

ἀλλ' ὃ γε Ταλθύβιον τε καὶ Εὐρυβάτην προσέειπεν,  
τῷ οἱ ἔσαν κήρυκε καὶ ὀτρηρῷ θεράποντε·  
“ἔρχεσθον κλισίην Πηληιάδew Ἀχιλῆος·  
χειρὸς ἔλοντ' ἀγέμεν Βρισηίδα καλλιπάρηον.  
εἰ δέ κε μὴ δώωσιν, ἐγὼ δέ κεν αὐτὸς ἔλωμαι  
ἐλθὼν σὺν πλεόνεσσι· τό οἱ καὶ ῥίγιον ἔσται.”  
ὥς εἰπὼν προΐει, κρατερὸν δ' ἐπὶ μῦθον ἔτελλεν.  
τῷ δ' ἀέκοντε βάτην παρὰ θῖν' ἀλὸς ἀτρυγέτοιο,

- Μυρμιδόνων δ' ἐπὶ τε κλισίας καὶ νῆας ἰκέσθην.  
 10 τὸν δ' εὗρον παρά τε κλισίῃ καὶ νηὶ μελαίνῃ  
 ἥμενον · οὐδ' ἄρα τῷ γε ἰδὼν γήθησεν Ἀχιλλεύς.

Make a list of the forms peculiar to the Homeric dialect in this passage, adding in each case the Attic prose form. What different uses of τῷ are seen in lines 2 and 8? Construction of χειρός (4). Use of the mode in ἀγέμεν (4) and ἔλωμαι (5). Explain the use of δέ after ἐγώ in 5.

2. Translate (*Il. II.* 455–8, 469–73): —

ἥντε πῦρ αἰδηλὸν ἐπιφλέγει ἄσπετον ὕλην  
 οὐρεὸς ἐν κορυφῇς, ἔκαθεν δέ τε φαίνεται αὐγή,  
 ὥς τῶν ἐρχομένων ἀπὸ χαλκοῦ θεσπεσίῳ  
 αἶγλη παμφανόωσα δι' αἰθέρος οὐρανὸν ἵκεν.

- 5 ἥντε μυιάων ἀδινάων ἔθνεα πολλά,  
 αἷ τε κατὰ σταθμὸν ποιμνήιον ἡλάσκουσιν  
 ὦρῃ ἐν εἰαρινῇ, ὅτε τε γλάγος ἄγγεα δεύει,  
 τόσσοι ἐπὶ Τρώεσσι κερηκομόωντες Ἀχαιοί  
 ἐν πεδίῳ ἴσταντο, διαρραῖσαι μεμαῶτες.

Mark on your writing-paper the metrical feet of 7 and 8, giving the rule in every case of variation from natural quantity. Construction of τῶν (3), οὐρανόν (4). What Latin words show the same stem with ὕλην (1), εἰαρινῇ (7), γλάγος (7)? What words contain the point of comparison in 5–9?

3. Translate (*Il. III.* 428–36): —

- “ἦλυθες ἐκ πολέμου · ὥς ὄφελος αὐτόθ' ὀλέσθαι,  
 ἀνδρὶ δαμείς κρατερῷ ὃς ἐμὸς πρότερος πόσις ἦεν.  
 ἡ μὲν δὴ πρὶν γ' εὐχέ' ἀρηιφίλου Μενελάου  
 σῇ τε βίῃ καὶ χερσὶ καὶ ἔγχρῃ φέρτερος εἶναι ·  
 5 ἀλλ' ἔθι νῦν προκαλέσσαι ἀρηιφίλου Μενέλαον

ἐξαῦτις μαχέσασθαι ἐναντίον. ἀλλὰ σ' ἔγωγε  
 παύεσθαι κέλομαι, μηδὲ ξανθῷ Μενελάῳ  
 ἀντίβιον πόλεμον πολεμίζειν ἢ δὲ μάχεσθαι  
 ἀφραδέως, μή πως τάχ' ὑπ' αὐτοῦ δουρὶ δαμῆης."

Give the full forms without elision of αὐτόθ' (1), εὔχ' (3),  
 τάχ' (9). Where are προκάλεσαι (5) and δαμῆης (9)  
 found? What two constructions are possible for δουρί (9)?  
 Give the general rule for the accent of verbs, and point  
 out the exceptions in this passage.

## GREEK AT SIGHT.

1881.

[Hermogenes explains who his friends are of whom he is proud (μέγα φρονεῖ).]

ἐκ τούτου εἶπέ τις · “σὸν ἔργον, ὦ Ἑρμούγενης, λέγειν τε τοὺς φίλους οὔτινές εἰσι καὶ ἐπιδεικνύναι ὥς μέγα τε δύνανται καὶ σοῦ ἐπιμέλονται, ἵνα δοκῇς δικαίως ἐπ’ αὐτοῖς μέγα φρονεῖν.” “Οὐκοῦν ὥς μὲν καὶ Ἕλληνες καὶ βάρβαροι τοὺς θεοὺς ἡγούνται πάντα εἶδέναι τὰ τε ὄντα καὶ τὰ μέλλοντα εὐδηλον.<sup>1</sup> πᾶσαι γοῦν αἱ πόλεις καὶ πάντα τὰ ἔθνη διὰ μαντικῆς ἐπερωτῶσι τοὺς θεοὺς τί τε χρὴ καὶ τί οὐ χρὴ ποιεῖν. καὶ μὴν ὅτι νομιζομέν γε δύνασθαι αὐτοὺς καὶ εὖ καὶ κακῶς ποιεῖν καὶ τοῦτο σαφές.<sup>1</sup> πάντες γοῦν αἰτοῦνται τοὺς θεοὺς τὰ μὲν φαῦλα ἀποτρέπειν τάγαθὰ δὲ διδόναι. οὗτοι τοίνυν οἱ πάντα μὲν εἰδότες πάντα δὲ δυνάμενοι θεοὶ οὕτω μοι φίλοι εἰσὶν ὥστε διὰ τὸ ἐπιμελεῖσθαι μου οὐποτε λήθω<sup>2</sup> αὐτοὺς οὔτε νυκτὸς οὔθ’ ἡμέρας οὔθ’ ὅποι ἂν ὀρμῶμαι οὔθ’ ὅτι ἂν μέλλω πράττειν. διὰ δὲ τὸ προειδέναι καὶ ὅ τι ἐξ ἐκάστου ἀποβήσεται σημαίνουσι μοι πέμποντες ἀγγέλους φήμας καὶ ἐνύπνια<sup>3</sup> καὶ οἰωνοὺς ἃ τε δεῖ καὶ ἃ οὐ χρὴ ποιεῖν, οἷς ἐγὼ ὅταν μὲν πείθωμαι, οὐδέποτε μοι μεταμέλει· ἥδη δὲ ποτε καὶ ἀπιστήσας ἐκολάσθην.”<sup>4</sup>

<sup>1</sup> Sc. ἐστί.<sup>2</sup> = λανθάνω.<sup>3</sup> dreams.<sup>4</sup> I have been punished.

1882.

ἐπεὶ δὲ μέγα φρονήσας ὁ Τισσαφέρνης ἐπὶ τῷ καταβάντι στρατεύματι παρὰ βασιλέως προεῖπεν Ἀγησιλάφῳ πόλεμον, εἰ μὴ ἀπίοι ἐκ τῆς Ἀσίας, οἱ μὲν ἄλλοι σύμμα-

χοι καὶ Λακεδαιμονίων οἱ παρόντες μάλα ἀχθεσθέντες φανεροὶ ἐγένοντο, Ἀγησίλαος δὲ μάλα φαιδρῷ τῷ προσώπῳ ἀπαγγεῖλαι Τισσαφέρνει τοὺς πρέσβεις ἐκέλευσεν ὥς πολλὴν χάριν αὐτῷ ἔχοι, ὅτι ἐπιорκήσας αὐτὸς μὲν πολέμους τοὺς θεοὺς ἐκτήσατο τοῖς δ' Ἑλλησι συμμάχους ἐποίησεν. ἐκ δὲ τούτου εὐθύς τοῖς μὲν στρατιώταις παρήγγειλε συσκευάζεσθαι ὥς εἰς στρατείαν, ταῖς δὲ πόλεσιν εἰς ἃς ἀνάγκη ἦν ἀφικνεῖσθαι στρατευομένῳ ἐπὶ Καρίαν προεῖπεν ἀγορὰν παρασκευάζειν. ἐπέστειλε δὲ καὶ Ἰωσι καὶ Αἰολεῦσι καὶ Ἑλλησποντίοις πέμπειν πρὸς ἑαυτὸν εἰς Ἑφεσον τοὺς συστρατευσομένους. ὁ δὲ Τισσαφέρνης, καὶ ὅτι ἵππικὸν οὐκ εἶχεν ὁ Ἀγησίλαος ἢ δὲ Καρία ἄφιππος<sup>1</sup> ἦν, καὶ ὅτι ἡγείτο αὐτὸν ὀργιζεσθαι αὐτῷ διὰ τὴν ἀπάτην,<sup>2</sup> τῷ ὄντι νομίσας ἐπὶ τὸν αὐτοῦ οἶκον εἰς Καρίαν αὐτὸν ὀρμήσειν, τὸ μὲν πεζὸν ἅπαν διεβίβασεν ἐκείσε, τὸ δ' ἵππικὸν εἰς τὸ Μαιάνδρου περιήγαγε πεδίον, νομίζων ἰκανὸς εἶναι καταπατήσαι<sup>3</sup> τῇ ἵππῳ<sup>4</sup> τοὺς Ἑλληνας, πρὶν εἰς τὰ δύσιππα<sup>1</sup> ἀφικέσθαι.

<sup>1</sup> unfit for cavalry operations.    <sup>2</sup> deceit.    <sup>3</sup> to overwhelm.    <sup>4</sup> cavalry.

1883.

Translate : —

Μετὰ δὲ ταῦτα ἀναστὰς εἶπε Ξενοφῶν· ὦ ἄνδρες στρατιῶται, τὴν μὲν πορείαν, ὥς ἔοικε, δῆλον ὅτι πεζῇ ποιητέον· οὐ γὰρ ἔστι πλοῖα· ἀνάγκη δὲ πορεύεσθαι ἤδη· οὐ γὰρ ἔστι μένουσι τὰ ἐπιτήδεια. ἡμεῖς οὖν, ἔφη, θυσόμεθα· ὑμᾶς δὲ δεῖ παρασκευάζεσθαι ὥς μαχουμένους εἴ ποτε καὶ ἄλλοτε· οἱ γὰρ πολέμιοι ἀνατεθαρρήκασιν. ἐκ τοῦτου ἐθύοντο οἱ στρατηγοί· θυομένοις δὲ ἐπὶ τῇ ἀφόδῳ<sup>1</sup> οὐκ

<sup>1</sup> departure.

ἐγίγνετο τὰ ἱερά. ταύτην μὲν οὖν τὴν ἡμέραν ἐπαύσαντο. καὶ τινες ἐτόλμων λέγειν ὡς ὁ Ξενοφῶν βουλόμενος τὸ χωρίον οἰκίσαι<sup>1</sup> πέπεικε<sup>2</sup> τὸν μάντιν λέγειν ὡς τὰ ἱερά οὐ γίγνεται ἐπὶ ἀφόδῳ. ἐντεῦθεν κηρύξας τῇ αὔριον παρεῖναι ἐπὶ τὴν θυσίαν τὸν βουλόμενον, ἔθνε· καὶ ἐνταῦθα παρήσαν πολλοί. θυομένῳ δὲ πάλιν εἰς τρεῖς ἐπὶ τῇ ἀφόδῳ οὐκ ἐγίγνετο τὰ ἱερά. ἐκ τούτου χαλεπῶς εἶχον οἱ στρατιῶται· καὶ γὰρ τὰ ἐπιτήδεια ἀπέλιπεν ἃ ἔχοντες ἦλθον, καὶ ἀγορὰ οὐδεμία παρῆν.

## GREEK HISTORY.

## 1876.

1. Give the dates, the opposed parties, and the immediate consequences, of the battles of Plataea, Ægospotami, Chæroneia.
2. Give the date and character of the peace of Antalkidas.
3. What is known of the life of Alkibiades ; of Philip of Macedon ; of Xenophon ?

## 1877.

1. Narrate the revolt of the Ionic cities of Asia Minor against the Persian government.
2. Who were the leading men at Athens in literature, art, and government, between 500 and 450 B.C. ?
3. When, and for how long, was the tyranny of the Thirty at Athens ? By whom, mainly, was it overthrown ?

## 1878.

1. What is known of Miltiades ; of Kleon ; of Aratus ?
2. Who were the chief men in Greek politics, philosophy, and art, between 400 and 300 B.C. ?
3. What are the prominent points in the history of Syracuse ?

## 1879.

1. Give a brief account of Demaratos (the friend of Xerxes) ; of Brasidas ; of Pelopidas.
2. What events occasioned the outbreak of the Peloponnesian war ? Into what periods is it usually divided ? What battle ended it ?
3. Narrate the history of Amphipolis and of Olynthos so far as they came into connection with Athens.

**1880.**

1. Give a brief account of Peisistratos; of Alkibiades; of Æschines.
2. Mention any events you recall between the Persian and Peloponnesian wars.
3. Give the date and character of the peace of Antalkidas.
4. Describe Philip's aggressions, and give some reasons for the weakness of the resistance offered by Athens.

**1881.**

1. Give a brief account of Aristeides and of Brasidas.
2. What is meant by the period of tyrants in Greek history? Describe the rise and overthrow of some one of them.
3. Describe the formation of the first Athenian confederacy and the process of its change into an empire.
4. Mention the principal battles (with dates) of Alexander's invasion of Asia. What motive did he claim to have for his attack on the Persian king? What were the results of his career?

**1882.**

1. Give a brief account of the life of Miltiades; of Demosthenes.
2. What Greek states held the so-called hegemony, and at what different periods? What were the causes of the transfer of it which came at the close of the Persian wars?
3. When was the peace of Antalkidas made, and what were its terms?
4. Describe *ostracism*. Against what individuals is it known to have been put into effect?



## 1883.

1. Give some account of Kleisthenes; of Xenophon.
2. Tell what you know about Greek colonies: *e.g.*, what was their relation to the mother city? to what countries were the earlier ones sent? why were most of them on insular or seaboard sites? how were they generally distributed according to tribe-connection? what great advantages resulted to Greece from them? how did they affect the people about them? name some of the most important.
3. Tell the story of the Athenian expedition against Syracuse.



**SHEFFIELD SCIENTIFIC SCHOOL.**

# REQUIREMENTS FOR ADMISSION.

(SHEFFIELD SCIENTIFIC SCHOOL.)

**Arithmetic:** Fundamental Operations; Least Common Multiple; Greatest Common Divisor; Common and Decimal Fractions; Denominate Numbers, including the Metric System of Weights and Measures; Percentages, including Interest, Discount, and Commission; Proportion; Extraction of the Square and Cube Roots.

**Algebra:** Fundamental Operations; Fractions; Equations of the First Degree, with one or several unknown quantities; Inequalities; Ratio and Proportion; Involution, including the Binomial Formula for an entire and positive Exponent; Evolution; the Reduction of Radicals; Equations of the Second Degree; Progressions; Permutations and Combinations; the Method of Indeterminate Coefficients; Fundamental Properties of Logarithms; Compound Interest.

**Geometry:** Plane, Solid, and Spherical, including Fundamental Notions of Symmetry, and Examples of Loci and Maxima and Minima of Plane Figures.

**Trigonometry:** Including the Analytical Theory of the Trigonometrical Functions and the usual Formulæ; the Construction and Use of Trigonometrical Tables, and the Solution of Plane Triangles, — so much, for example, as is contained in Newcomb's Trigonometry to Art. 79, or in Wheeler's or Richards's Plane Trigonometry.

**Latin:** Simple exercises in translating English into Latin. (Smith's *Principia Latina*, Part I., and the First and Second Latin Books of the Ahn-Henn Latin series, are named as indicating the nature and extent of this requirement.) Cæsar, Six Books of the Gallic War.

**History of the United States.**

**Geography.**

**English:** Including Grammar, Spelling, and Composition. In Grammar, Whitney's "Essentials of English Grammar," or an equivalent.

# ENTRANCE EXAMINATION PAPERS.

(SHEFFIELD SCIENTIFIC SCHOOL.)

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## ARITHMETIC.

July, 1880.

1. (a) Select the prime numbers between 1 and 50.  
(b) Find the prime factors of 6902.
2. Find the value of  $\frac{4\frac{1}{2} - 2\frac{1}{4}}{6\frac{1}{2} - 2\frac{1}{4}}$ , in its simplest form.
3. Divide 0.10724 by 0.003125.
4. How many stones 10 in. long, 9 in. broad, and 4 in. thick, would it require to build a wall 80 ft. long, 20 ft. high, and  $2\frac{1}{4}$  ft. thick, without mortar?
5. The population of a certain town has gained 25 per cent within the last five years. It is now 6575; what was it five years ago?
6. Extract the square root of 3369 to three places of decimals.
7. Give the approximate value of the meter in inches; of the gram in grains; of the kilogram in pounds avoirdupois; of the liter in liquid quarts.
8. What is the weight of a liter of pure water at its maximum density?

September, 1880.

1. Reduce  $\frac{3}{910}$  and  $\frac{7}{2470}$  to their least common denominator; add the results, and express the sum decimally to four places.

2. If 8 horses consume  $3\frac{1}{2}$  t. of hay in 30 dys., how long will  $4\frac{9}{10}$  t. last 10 horses?

3. A buys 9 per cent stocks at 25 per cent premium, and B buys 6 per cent stocks at 25 per cent discount; supposing dividends to be paid promptly, what rates of interest will they receive on their investments?

4. Calculate the square root of 2.064 to two places of decimals.

5. Calculate the cube root of 3.3 to two places of decimals.

6. How many hectoliters of grain will a bin hold whose interior length, width, and depth, are each 6 ft. 6 in.?

June, 1881.

1. Ascertain whether the fraction  $\frac{2458}{61937}$  is in its lowest terms or not, and explain the process you employ.

2. (a) Divide  $\frac{7}{257}$  by  $\frac{3}{241}$ , and explain the process.

(b) Can the quotient be exactly expressed by a terminating decimal? Give a reason for your answer.

3. Divide 0.00309824 by 0.0376, and explain the position of the decimal point in the quotient.

4. If a body revolves uniformly in the circumference of a circle at the rate of  $12^{\circ} 15' 25''$  per minute, how long is it in performing a complete revolution?

5. If 6 men, working uniformly at a certain rate, do a certain piece of work in 17 dys. of 9 hrs. each, how many

days of  $8\frac{1}{2}$  hrs. each will 24 men, working uniformly at the same rate, require to do 20 such pieces?

6. \$5674.83 is 105 per cent of what sum?

7. Extract the square root of 2.26 to three places of decimals. Show how you can derive from the square root of this number. that of 0.0226.

8. Find the weight in grams of a rectangular bar of gold  $1^{\text{dm}}$  long,  $2\frac{1}{2}^{\text{cm}}$  wide, and  $2^{\text{cm}}$  thick, assuming the bar to be 19 times as heavy as its own volume of pure water at its maximum density.

**September, 1881.**

1. Find the least common multiple of 1011, 1685, and 2359.

2. A man bought 16 horses and 19 cows for \$1855. He paid upon the average  $\frac{7}{15}$  as much for a cow as he did for a horse. What was the average price he paid per head for the horses?

3. Divide 0.006102 by 2.034, and explain the position of the decimal point.

4. Reduce 18,216 ft. to miles and decimals of a mile.

5. A company, whose capital is \$275,000, has \$15,125 from its earnings to divide. What per cent dividend can it declare upon the basis of this sum?

6. If a block of granite 8 ft. long, 2 ft. wide, and 1 ft. 6 in. thick, weigh 920 lbs., how much will a block of the same kind of granite weigh which is 12 ft. long, 3 ft. wide, and 2 ft. thick?

7. Extract the cube root of 1.025 to three places of decimals.

8. (a) In  $2.15^{\text{cm}}$  how many cubic millimeters?

Reduce approximately

- (b)  $600^{\text{km}}$  to miles, and

- (c)  $50^{\text{g}}$  to grains.

**June, 1882.**

1. Find the greatest common divisor of 17,640 and 18,375.
2. Find the least common multiple of the foregoing numbers.

3. Give the table of troy weights; also the table of metric weights. Express the gram in grains, and the kilogram in pounds avoirdupois.

4. Express  $\frac{32\frac{1}{8}}{75\frac{3}{8}}$  decimally to three places.

5. Of an alloy containing 21 parts copper and 4 parts nickel, what per cent is copper and what per cent nickel?

6. For what amount must a note, payable in 60 days, be given to a bank discounting at 6 per cent to obtain \$500?

7. If 16 men build 18 rds. of wall in 12 dys., how many men will be needed to build 72 rds. in 8 dys.?

8. Extract the square root of .001601 to four places.

**September, 1882.**

1. (a) Which of the numbers 293, 371, 385, 440, 524, 617, and 713 are prime?

(b) Separate 1836 into its prime factors.

2. Divide  $\frac{\frac{7}{8}}{\frac{3}{11}}$  of  $12\frac{1}{2}$  by  $\frac{\frac{1}{8}}{7\frac{1}{2}}$  of  $8\frac{3}{4}$ .

3. Divide .000744 by .62, and explain the position of the decimal point in the quotient.



4. In 80,937,864 sq. in. how many acres?
5. Q and Y barter. Q makes of 10 cts.  $12\frac{1}{2}$  cts., Y makes of 15 cts. 19 cts.; which makes the most per cent, and how much?
6. Three men harvested and thrashed a field of grain on shares, A furnishing 4 hands 5 dys., B 6 hands 4 dys., and C 5 hands 8 dys. The whole crop was 630 bu., of which they had one-fifth; how much did each receive?
7. Extract the cube root of  $81\frac{5}{11}$  to three decimal places.
8. Bought 30<sup>m</sup> of cloth at \$2.50 per metre; at what price per yard must it be sold to gain \$25?

#### June, 1883.

1. Find the greatest common divisor of 36,864 and 20,736.
2. Multiply  $\frac{3}{4}$  of  $\frac{8\frac{1}{2}}{6\frac{2}{3}}$  by  $\frac{4}{5}$  of  $\frac{7}{16}$ .
3. (a) Give the table of metric weights.  
(b) A cubical cistern holds 1331<sup>ks</sup> of water; what is the length of an inner edge?
4. Divide 67.56785 by 0.035, and multiply the result by  $\frac{7}{8}$ . Explain the position of the decimal point after division.
5. How much money should be received on a note of \$1000, payable in 4 months, discounting at a bank where the interest is 6 per cent?
6. If a man travel 117 miles in 15 days, employing only 9 hours a day, how far would he go in 20 days, travelling 12 hours a day?
7. Extract the square root of 10 to five places.

September, 1883.

1. (a) Select the prime numbers between 50 and 100.  
(b) What is the least number that can be exactly divided by  $\frac{1}{15}$ ,  $2\frac{1}{2}$ , 5,  $6\frac{1}{3}$ , and  $\frac{1}{11}$ ?
2. Reduce 0.00096 to its simplest equivalent common fraction.
3. 7465 is  $33\frac{1}{3}$  per cent of what number?
4. A broker bought 84 shares of railroad stock at 19 per cent discount. He sold 35 shares at  $27\frac{1}{2}$  per cent discount, and the balance at 8 per cent discount. Did he gain or lose, and how much?
5. Calculate the cube root of 3.7 to five decimal places.
6. Give the approximate value of the meter in feet; of the kilogram in pounds avoirdupois.
7. Find the weight in kilos of 15 gallons of water.

## GEOMETRY.

July, 1880.

NOTE 1. Candidates who present themselves for the whole examination may omit questions 2, 3, and 5. Candidates who present themselves for the partial examination will confine themselves to the questions in Plane Geometry.

NOTE 2. State what text-book you have studied, and to what extent.

## I. — PLANE GEOMETRY.

1. (a) Define the symmetry of a figure with respect to an axis and with respect to a point.

(b) Prove that if a figure is symmetrical with respect to two axes perpendicular to each other, it is also symmetrical with respect to the intersection of these axes.

2. An angle formed by a tangent and a chord is measured by one-half the intercepted arc.

3. To bisect a given arc or angle.

4. (a) If a perpendicular be drawn from the vertex of the right angle to the hypotenuse of a right triangle, the two triangles thus formed are similar to each other and to the whole triangle.

(b) What can you say of the perpendicular as compared with the segments of the hypotenuse? Why?

(c) What of either side about the right angle? Why?

5. On a given straight line to construct a polygon similar to a given polygon?

6. The circumferences of two circles are to each other as their radii, and their areas are to each other as the squares of their radii.

## II. — SOLID AND SPHERICAL GEOMETRY.

7. If a straight line and a plane are parallel, the intersection of the plane with planes passed through the line are parallel to that line and to each other.

8. Define a prism. Two prisms are equal, if three faces including a triedral angle of the one are respectively equal to three faces similarly placed including a triedral angle of the other.

9. Every section of a sphere made by a plane is a circle.

10. Between what two limits does the sum of the angles of a spherical triangle lie? Write expressions for the surface and volume of the cylinder, cone, and sphere.

September, 1880.

[State what text-book you have studied and to what extent.]

1. To draw a common tangent to two given circles.

2. The bisector of an angle of a triangle divides the opposite side into segments which are proportional to the adjacent sides.

3. The area of a parallelogram is equal to the product of its base and altitude.

4. How do you find the area of a trapezoid? The areas of similar polygons are to each other in what ratio? Of all plane figures having the same area what one has the least perimeter?

5. If a straight line is perpendicular to each of two straight lines at their point of intersection, it is perpendicular to the plane of those lines.

6. A triangular pyramid is one-third of a triangular prism of the same base and altitude.

7. Define the terms, *spherical excess* and *tri-rectangular triangle*. The area of a spherical triangle is equal to its spherical excess (the right angle being the unit of angles, and the tri-rectangular triangle the unit of areas).

June, 1881.

NOTE 1. Candidates for examination on the whole of this subject should take the whole of this paper. Candidates for the first year's partial examination should take the first part; those for the second year's partial examination, the second part.

NOTE 2. State what text-book you have studied on the subject, and to what extent.

#### I. — PLANE GEOMETRY.

1. Of two oblique lines drawn from the same point to the same straight line, that is the greater which cuts off upon the line the greater distance from the foot of the perpendicular. Corollaries.

2. In any triangle the product of two sides is equal to the product of the diameter of the circumscribed circle by the perpendicular let fall upon the third side from the vertex of the opposite angle.

3. Two sides of a triangle and the angle opposite to one of them being given, to construct the triangle.

4. The area of a circle is equal to half the product of its circumference by its radius.

5. Calculate the area of a circle whose radius is 10 ft.

#### II. — SOLID AND SPHERICAL GEOMETRY.

6. The sum of any two face angles of a trihedral angle is greater than the third.

7. If the base of a cone is a circle, every section of the cone made by a plane parallel to the base is a circle.

8. Calculate the area in square feet of a spherical triangle on a sphere whose radius is 10 ft., the angles of the triangle being  $70^\circ$ ,  $80^\circ$ , and  $120^\circ$ .

9. Calculate the area of a zone on the sphere whose radius is 30 ft., the altitude of the zone being 3 ft.

10. Write expressions for the surface and volume of a cone of revolution.

September, 1881.

[State what text-book you have studied on the subject, and to what extent.]

1. Through any three points not in the same straight line a circumference can be made to pass, and but one.

2. If three or more straight lines drawn through the same point intersect two parallels, the corresponding segments of the parallels are proportional.

3. To find the locus of all the points whose distances from two given points are in a given ratio.

4. Define the term *limit*. Prove that the circumference of a circle is the limit to which the perimeters of the inscribed and circumscribed regular polygons approach when the number of their sides is increased indefinitely.

5. (a) When is a straight line said to be perpendicular to a plane? (b) How do you measure the dihedral angles included between two intersecting planes?

(c) Prove that if a straight line is perpendicular to a plane, every plane passing through the line is also perpendicular to that plane.

6. The volume of any parallelepiped is equal to the product of its base by its altitude.

7. If two triangles on the same sphere are mutually equiangular, they are also mutually equilateral; and are either equal or symmetrical.

8. The lateral area of a frustum of a cone of revolution is equal to the half sum of the circumferences of its bases multiplied by its slant height.

June, 1882.

NOTE 1. Candidates for examination in this subject as a whole, should take the whole of this paper; those for the first year's partial examination, the first part of it; those for the second year's partial examination, the second part.

NOTE 2. State at the head of your paper what text-book you have studied on the subject, and to what extent.

1. (a) Define and illustrate the symmetry of a figure with reference to an axis and with reference to a point.

(b) Define the different classes and species of quadrilaterals.

2. The three medial lines of a triangle meet in a point which is at two-thirds the distance from the vertex of each angle to the middle of the opposite side.

3. To inscribe a circle in a given triangle. Define *escribed* circles relative to a triangle.

4. The bisector of an interior angle of a triangle divides the opposite side into segments proportional to the adjacent sides.

5. When is a variable magnitude said to have a *limit*? Give an example to illustrate the definition.

6. If two sides of a triangle be given, its area will be a maximum when these sides are at right angles.

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7. If a straight line is perpendicular to each of two straight lines at their point of intersection, it is perpendicular to the plane of these lines.

8. Define symmetrical polyhedral angles. Illustrate the definition by a figure.

9. Define the poles of a circle of a sphere. Prove that all points on the circumference of a circle of a sphere are equally distant from each of its poles.

10. The angle between two great circles is equal to the dihedral angle between their planes.

**September, 1882.**

[State what text-book you have studied, and to what extent.]

1. An inscribed angle is measured by one-half its intercepted arc.

2. From a given point without a circle to draw a tangent to the circle.

3. To construct a triangle which shall be equal in area to a given quadrilateral.

4. The diameters of two concentric circles being 10 and 6 feet, required the area of the ring contained between their circumferences.

5. The sum of any two face angles of a trihedral angle is greater than the third.

6. The lateral area of a frustum of a regular pyramid is equal to its slant height into half the sum of the perimeters of its bases.

7. Write expressions for the volume of the sphere and right cylinder. Show that the volume of a sphere is to that of its circumscribed cylinder as 2 to 3.

8. Required the area of a spherical triangle described on a sphere, whose diameter is 30 feet, the angles being  $140^\circ$ ,  $92^\circ$ , and  $68^\circ$ .



June, 1883.

NOTE 1.—Candidates for examination on the whole of this subject should take the whole of this paper. Candidates for the first year's partial examination should take the first part; those for the second year's partial examination, the second part.

NOTE 2.—State what text-book you have studied, and to what extent.

### I.—PLANE GEOMETRY.

1. (a) Define the symmetry of a figure with respect to a point and with respect to an axis.

(b) Determine the symmetrical figure of a triangle with respect to a point lying within and with respect to an axis cutting the triangle.

2. The three perpendiculars from the vertices of a triangle to the opposite sides meet in the same point.

3. To construct a polygon similar to a given polygon, the ratio of similitude of the two polygons being given.

4. (a) What is the area of a circle circumscribed about a square whose side is  $a$ ?

(b) What must be the diameter of a circle in order that the length of its circumference may be 100 feet?

5. To find the locus of the point from which a given line subtends a right angle.

6. Of all triangles having the same base and equal areas, that which is isosceles has the minimum perimeter.

### II.—SOLID AND SPHERICAL GEOMETRY.

7. Between two lines not in the same plane, one, and only one, common perpendicular can be drawn.

8. All parallelopipeds having the same base and equal altitudes are equal in volume.

9. Show that opposite spherical triangles are symmetrical. If two symmetrical spherical triangles are isosceles, they are identically equal.

10. Write expressions for the lateral area and volume of the prism and regular pyramid: also for the entire surface and volume of the right cylinder and sphere.

September, 1883.

[State what text-book you have studied, and to what extent.]

1. Every point in the bisector of an angle is equally distant from the sides of the angle; and every point within the angle, but not on the bisector, is nearer that side toward which it lies.

2. If the sum of two opposite angles of a quadrilateral is equal to two right angles, the vertices of the four angles lie on a circle.

3. (a) Write expressions for the area of the triangle, parallelogram, trapezoid, and circle.

(b) The areas of similar figures are to each other in what ratio?

(c) How would you find the area of any quadrilateral?

4. (a) When is a variable magnitude said to have a *limit*? Give an example to illustrate the definition.

(b) Apply the theory of limits to show that the area of a circle is equal to half the product of its circumference by its radius.

5. If from any point perpendiculars be dropped upon two intersecting planes, the angle between these perpendiculars will be equal to the dihedral angle between the planes, adjacent to the angle in which the point is situated.

6. The area of a spherical triangle is proportional to its spherical excess.

7. Required the entire surface and volume of a right cone whose altitude is 12 feet, and the diameter of its base 15 feet.

8. The radius of a sphere is bisected at right angles by a plane. What is the ratio of the two parts into which the plane divides the spherical surface?

## ALGEBRA.

July, 1880.

[State what text-book you have studied, and to what extent.]

## I.

1. Resolve the following expressions into factors,

$$16a^4b^2 - 24a^3bmx + 9m^2x^2; \quad 9a^2b^2 - 16a^2c^2; \quad a^3 - 8b^3.$$

2. Given  $\frac{x}{a+b} + \frac{y}{a-b} = \frac{1}{a-b}$  and  $\frac{x}{a+b} - \frac{y}{a-b} = \frac{1}{a+b}$ ;  
find  $x$  and  $y$ .

3. Given  $\sqrt{a-x} + \sqrt{b-x} = \frac{b}{\sqrt{b-x}}$ , to find  $x$ .

4. (a) From  $2\sqrt{72a^3}$  take  $\sqrt{162a^2}$ .

(b) Find the value of  $\sqrt{2} \times \sqrt[3]{3} \times \sqrt[4]{5}$ .

(c) Divide  $8a - b$  by  $2a^{\frac{1}{2}} - b^{\frac{1}{2}}$ .

(d) Simplify  $\frac{a^2b}{3c} \left( \frac{a^7b^4}{9c} \right)$ .

5. Given  $\frac{3x}{2} + 4x - 8 > 3$  and  $6x + \frac{5x-15}{3} < 18$ , to find  
a superior and inferior limit of  $x$ .

## II.

6. Given  $\frac{x+2}{x-2} - \frac{x-2}{x+2} = \frac{5}{6}$ , to find the values of  $x$ .

7. Given  $x^2 + xy = ay^2 + xy = b$ , to find  $x$  and  $y$ .

8. Expand  $\frac{1+2x}{1-x-x^2}$  into a series by the method of indeterminate coefficients.

9. The number of permutations of  $n$  things, 3 together, is 6 times the number of combinations, 4 together; find  $n$ .

NOTE.—The first division of the paper extends as far as Quadratic Equations, and will be all that is required of candidates who propose to pass the partial examination only.

September, 1880.

1. Divide  $\frac{x^4 - b^4}{x^2 - 2bx + b^2}$  by  $\frac{x^2 + bx}{x - b}$ .

2. Given  $\frac{a + 4b}{m + x} = \frac{2a - 3b}{3m - y}$  and  $5ax - 2by = c$ , to find  $x$  and  $y$ .

3.  $\sqrt{14 - x} + \sqrt{11 - x} = \frac{3}{\sqrt{11 - x}}$ , to find  $x$ .

4. Simplify  $\sqrt{24} + \sqrt{54} - \sqrt{6}$ ;  $\frac{a + b}{a - b} \sqrt{\frac{a - b}{a + b}}$ ;  
 $a^{\frac{2}{3}}x \times b^{\frac{2}{3}}y \times c^{\frac{2}{3}}z$ ;  $(\sqrt{-1})^4$ ;  $(\sqrt[4]{-1})^2$ .

5. Extract the square root of

$$4x^4 + 16a^4 - 12ax^3 - 24a^3x + 25a^2x^2.$$

6. Solve the equation  $3x^2 + 2x - 9 = 76$ .

7. If  $\frac{a_1}{b_1} = \frac{a_2}{b_2} = \frac{a_3}{b_3} \dots = \frac{a_n}{b_n} = r$ , show that

$$\frac{a_1 + a_2 + a_3 + \dots + a_n}{b_1 + b_2 + b_3 + \dots + b_n} = r.$$

8. Having the first term ( $a$ ), the ratio ( $r$ ), and the last term ( $l$ ), of a geometric progression, find the sum ( $s$ ), and the number ( $n$ ) of the terms.

9. Expand  $\frac{b}{\sqrt{x^2 + a^2}}$  into a series by the binomial formula.

10. Solve the equations  $x^m = y^m$  and  $x^3 = y^3$ .

June, 1881.

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NOTE 2. — State at the head of your paper what text-book you have studied on the subject, and to what extent.

## I.

1. Find the greatest common divisor of

$$5a^5 + 10a^4b + 5a^3b^2 \text{ and } a^3b + 2a^2b^2 + 2ab^3 + b^4.$$

2. Given  $\frac{13m - 7x}{m + p} + \frac{4m - x}{m - p} = \frac{m + p}{m - p} - kx$ , to find  $x$ .

3. Two masons, A and B, propose to build a wall. If both work together, they can finish it in 12 dys.; but if A work 2 dys. and B 3 dys., they will complete only one-fifth of the job. How long will it take each of them separately to do the work?

4. (a) Reduce  $\sqrt[3]{a}$ ,  $\sqrt[3]{b}$ ,  $\sqrt[3]{c^2}$ , to the same index.

(b) Simplify the following expressions :

$$(1) \sqrt[3]{8a^{3m}\sqrt{a^{4m}b}};$$

$$(2) 4\sqrt{48} + \sqrt{147} - 4\sqrt{12};$$

$$(3) \frac{(2)^{\frac{1}{2}}(9)^{\frac{1}{2}}(3)^{\frac{1}{2}}}{(3)^{\frac{1}{2}}(4)^{\frac{1}{2}}(2)^{\frac{1}{2}}}.$$

5. Given  $2\sqrt{2x+2} + \sqrt{x+2} = \frac{12x+4}{\sqrt{8x+8}}$ , to find  $x$ .

## II.

6. Given  $4x - \frac{36-x}{x} = 46$ , to find  $x$ .

7. Determine by inspection the roots of the equation,  

$$x^2 - (a+b)x + (a+c)(b-c) = 0,$$
 and state the principle upon which you do so.

8. Given  $x^2y + xy^2 = a$  and  $x^2y - xy^2 = b$ , to find  $x$  and  $y$ .
9. Expand  $(a^3 + b^3)^{\frac{1}{2}}$  to four terms by the binomial formula.
10. Show that the modulus of any system of logarithms is equal to the reciprocal of the Napierian logarithm of the base of the system; and also that it is equal to the logarithm of the Napierian base taken in the system.

September, 1881.

[State what text-book you have studied on the subject, and to what extent.]

1. Resolve  $a^6 - b^6$  into four factors.
2. Given  $\frac{7}{\sqrt{x}} + \frac{4}{\sqrt{y}} = 4$  and  $\frac{1}{\sqrt{x}} + \frac{2}{\sqrt{y}} = 1$ , to find  $x$  and  $y$ .
3. Simplify the following expressions :
- (a)  $\frac{a^{\frac{1}{2}}}{a^{-\frac{1}{4}}}$ ;      (b)  $(a^{\frac{1}{2}})^5$ ;      (c)  $\sqrt[4]{a^{\frac{1}{2}}}$ ;
- (d)  $\sqrt[2]{\sqrt[3]{5ab^6}}$ ;      (e)  $\frac{2}{\sqrt{-2}}$ ;      (f)  $\frac{\sqrt{2}}{\sqrt[2]{2}}$ .
4. Resolve the trinomial  $x^2 + 2x - 120$  into its binomial factors.
5. Given  $\frac{\sqrt{3x^2-1} + \sqrt{3-x^2}}{\sqrt{3x^2-1} - \sqrt{3-x^2}} = \frac{a}{b}$ , to find  $x$ .
6. Given  $5x^2 + 2y^2 = 22$  and  $3x^2 - 5y^2 = 7$ , to find  $x$  and  $y$ .
7. A ball rolls down an inclined plane, describing 1 ft. the first second, 3 ft. the second, and so on. How far will it go in 10 sec., and how far in the tenth second?

8. If the population of a certain city is now 10,000, and it increases at the annual rate of 10 per cent for the next 10 yrs., what will it be at the end of that time? [Given  $(1.1)^{10} = 2.5937+$ .]

9. Expand  $\frac{2+3x}{4+5x}$  into a series by the method of indeterminate coefficients.

10. Find the number of combinations of 10 things taken 4 together, and also taken 6 together.

June, 1882.

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NOTE 2. — State at the head of your paper what text-book you have studied on the subject, and to what extent.

### I.

1. Resolve  $x^3 + 8y^3$  into two factors.

2. Given  $\frac{10a-5x}{a+b} - \frac{5a-x}{a-b} = cx$ , to find the value of  $x$ .

3. There are three workmen, A, B, C. A and B together can perform a certain piece of work in  $a$  days; A and C together, in  $b$  days; and B and C together, in  $c$  days. In what time could each singly perform it, and in what time could they finish it if all worked together?

4. Prove that if

$$\frac{a_1}{b_1} = \frac{a_2}{b_2} = \frac{a_3}{b_3} = r, \text{ then } \frac{a_1 + a_2 + a_3}{b_1 + b_2 + b_3} = r.$$

5. (a) Write equivalent expressions for the following:

$$a^0; a^{-m}; \sqrt[3]{a^5}.$$

(b) Reduce the following expressions to simpler forms :

$$(1) \quad \sqrt{45c^3} - \sqrt{80c^3} + \sqrt{5a^2c};$$

$$(2) \quad \left[ \left( \frac{a^{-2m}}{b^{-2n}} \right)^{\frac{p}{m}} \right]^{\frac{q}{2n}};$$

$$(3) \quad 4\sqrt[3]{\frac{2}{3}} \times 2\sqrt{\frac{3}{4}}.$$

## II.

6. Given  $3x^2 + x = 7$ , to find  $x$ .

7. Given  $\frac{\sqrt{p+x} + \sqrt{p-x}}{\sqrt{x}} = \sqrt{\frac{x}{q}}$ , to find  $x$ .

8. Given  $x + y = a$ ;  $x^2 + y^2 = b^2$ ; to find  $x$  and  $y$ .

9. Expand  $\frac{1+2x}{1-3x}$  into a series by the method of indeterminate coefficient.

10. Write equivalent expressions adapted to computation for the following :

$$(a) \log \left( \frac{a^m b^n}{c^p} \right); \quad (b) \log \sqrt{a^2 - x^2}.$$

September, 1882.

[State what text-book you have studied, and to what extent.]

1. Multiply  $\frac{x^4 - b^4}{x^2 + 2bx + b^2}$  by  $\frac{x^2 + bx}{x - b}$ , so as to obtain the product in its simplest form.

2. Given  $x - \frac{y-a}{b} = c$  and  $y - \frac{a-x}{b} = d$ , to find  $x$  and  $y$ .

3. Given  $\sqrt{4a+x} = 2\sqrt{b+x} - \sqrt{x}$ , to find  $x$ .

4. Write the 6th power of  $(a - 2b)$  by the binomial formula.



5. Simplify the following expressions :

$$(a) (x^{\frac{p}{q}})^n; \quad (b) \sqrt[5]{\frac{32m^5n^{10}}{p^{15}q^{20}}}; \quad (c) \sqrt[4]{36a^2b^3};$$

$$(d) \sqrt{8} + \sqrt{50} - \sqrt{18}; \quad (e) 3a\sqrt[6]{b} \times 5b\sqrt[8]{2c}.$$

6. Solve the equation  $6x^2 - 13x + 6 = 0$ , and resolve the first member into its factors.

7. Given  $x + y = p$  and  $xy = q^2$ , to find  $x$  and  $y$ .

8. A traveller has a journey of 132 miles to perform. He goes 27 m. the first day, 24 m. the second, and so on, travelling 3 m. less each day than the day before. In how many days will he complete the journey?

9. What is the present value of  $a$  dollars due  $n$  years hence, at  $c$  per cent compound interest?

10. How many distinct straight lines can be drawn in joining, two and two, five distinct points, no three of which are in the same straight line?

June, 1883.

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NOTE 2. State at the head of your paper what text-book you have studied, and to what extent.

### I.

1. Reduce to their simplest forms the fractions,

$$(a) \frac{ac + bd + ad + bc}{af + 2bx + 2ax + bf}; \quad (b) \frac{ax^m - bx^{m+1}}{a^2bx - b^3x^3}.$$

2. Given  $\frac{ace}{d} - \frac{(a+b)^2x}{a} - bx = ae - 3bx$ , to find  $x$ .

3. A sum of money, at simple interest, amounted in  $m$  years to  $a$  dollars, and in  $n$  years to  $b$  dollars. Find the sum and the rate of interest.

4. Prove that if  $\frac{x-y}{m} < 1 - \frac{x}{y}$ , and  $m$  is positive, then  $x < y$ .

5. (a) Simplify  $(a^2b^3)^{\frac{1}{2}} + (a^2c^3)^{\frac{1}{2}}$ .

(b) Extract the square root of  $6hm^{2n} + h^2 + 9m^{4n}$ .

(c) Reduce  $\frac{\sqrt{x+a} + \sqrt{x-a}}{\sqrt{x+a} - \sqrt{x-a}}$  to an equivalent fraction with a rational denominator.

## II.

6. Given  $15x^2 - 20x = 35$ , to find  $x$ .

7. Given  $\frac{x + \sqrt{x^2 - 9}}{x - \sqrt{x^2 - 9}} = (x - 2)^2$ , to find  $x$ .

8. Given  $x^2 - xy = 48$ , and  $xy - y^2 = 12$ , to find  $x$  and  $y$ .

9. The number of permutations of  $n$  things taken  $r$  together is equal to 10 times the number when taken  $r - 1$  together; and the number of combinations of  $n$  things taken  $r$  together is to the number when taken  $r - 1$  together as 5 to 3; required the value of  $n$  and  $r$ .

10. Expand  $\frac{3 + 2x}{5 + 7x}$  into a series of ascending powers of  $x$  by the method of indeterminate coefficients. (Four terms of the series will be sufficient.)

September, 1883.

[State what text-book you have studied, and to what extent.]

1. Given  $\frac{x-y+1}{x-y-1} = a$ , and  $\frac{x+y+1}{x+y-1} = b$ , to find  $x$  and  $y$ .

2. Simplify (a)  $\sqrt{27} + 2\sqrt{48} + 3\sqrt{108}$ .

(b)  $(\sqrt[7]{a^2b})^3 (\sqrt[7]{a^3b^{12}})^4$ .

(c)  $\frac{x^{2p(q-1)} - y^{2q(p-1)}}{x^{p(q-1)} + y^{q(p-1)}}$ .

3. Form an equation whose roots shall be 2 and -3.  
Resolve  $x^2 - 3x + 4$  into two factors.

4. Given  $\frac{1}{x} + \frac{1}{y} = 5$ , and  $\frac{1}{x^2} + \frac{1}{y^2} = 13$ , to find  $x$  and  $y$ .

5. Given  $\frac{3x + \sqrt{4x - x^2}}{3x - \sqrt{4x - x^2}} = 2$ , to find  $x$ .

6. To deduce a formula for the sum of a geometric progression in terms of the first term, the ratio, and the number of terms.

7. Having 10 different letters, how many sets of two each can you form of them, differing by at least one letter?

8. Expand  $\frac{1}{1-2x+x^2}$  into a series of ascending powers of  $x$  by the method of indeterminate coefficients. (Four terms of the series will suffice.)

9. Express  $\log \sqrt[3]{\frac{ab^2c^4}{d^5}}$  in a form adapted to computation.

10. To deduce a formula for the amount of a given sum of money for a given time at a given rate of compound interest.

## TRIGONOMETRY.

July, 1880.

[State what text-book you have studied, and to what extent.]

1. Given  $\tan A = \sqrt{3}$ ; find all the other functions of  $A$  when  $A$  is an angle of the third quadrant.

2. Given  $\sin 30^\circ = \frac{1}{2}$ ; find the sine and cosine of  $\pm 60^\circ$ ,  $120^\circ$ ,  $150^\circ$ ,  $210^\circ$ ,  $240^\circ$ ,  $300^\circ$ ,  $330^\circ$ .

3. Deduce the formula,

$$\sin x + \sin y = 2 \sin \frac{1}{2}(x + y) \cos \frac{1}{2}(x - y).$$

4. Show that  $\tan^{-1} x - \tan^{-1} y = \tan^{-1} \frac{x - y}{1 + xy}$ .

5. Write the formulæ for solving the several cases of right triangles.

6. In a plane triangle the side  $b$  is 304, the side  $c$  is 280.3, and the included angle  $A$  is  $100^\circ$ ; find the remaining parts.

September, 1880.

[State what text-book you have studied, and to what extent.]

1. The length of an arc is 1.5 that of its radius; what is the number of degrees in the angle it subtends?

2. Find all of the functions of the following angles:  
 $\pm 45^\circ$ ,  $135^\circ$ ,  $225^\circ$ ,  $315^\circ$ .

3. Given  $\sin A = m \sin B$  and  $\tan A = n \tan B$ ; find  $\sin A$  and  $\cos B$ .

4. Deduce the formulæ for the sine of the sum of two angles in terms of the sines and cosines of the angles.

5. Given  $A = \sin^{-1} \frac{3}{5}$ ,  $B = \sin^{-1} \frac{4}{5}$ , to show that  $A + B = 90^\circ$ .

6. In a triangle ABC, given  $a = 309$ ,  $b = 450$ , and  $A = 27^\circ 50'$ , to first determine whether the triangle admits of more than one solution, and then solve it.

**June, 1881.**

[State what text-book you have studied on the subject, and to what extent.]

1. Write the values of the different trigonometric functions for angles of  $0^\circ$ ,  $90^\circ$ ,  $180^\circ$ ,  $270^\circ$ ,  $300^\circ$ .

2. Write the simplest equivalent expressions for

$$\sin\left(\frac{\pi}{2} - a\right), \cos\left(\frac{\pi}{2} + a\right), \tan\left(\frac{3}{2}\pi - a\right), \sin(2\pi - a).$$

3. Write the fundamental formulæ connecting two or more of the trigonometric functions of the same angle, and deduce any two of them.

4. Given  $\tan a = \frac{m}{n}$ , to find  $\sin a$  and  $\cos a$ .

5. Deduce the formulæ,

$$\cos 2a = 1 - 2 \sin^2 a; \quad \sin \frac{1}{2}a = \sqrt{\frac{1}{2}(1 - \cos a)}.$$

6. Prove that  $\tan^{-1} \frac{1}{2} + \tan^{-1} \frac{1}{3} = \frac{\pi}{4}$ .

7. In a plane triangle the side  $a$  is 4575, the side  $b$  is 5656.7, and the angle B (opposite  $b$ ) is  $125^\circ 25'$ ; find the remaining parts of the triangle.

**September, 1881.**

[State what text-book you have studied on the subject, and to what extent.]

1. Find the angle 1.8 in degrees.

2. Calculate the different functions of  $\frac{\pi}{6}$  and  $\frac{11}{6}\pi$ .

3. Represent the different trigonometric functions of an angle in the second quadrant by lines.

4. Deduce the formula,

$$\cos a - \cos b = -2 \sin \frac{1}{2}(a+b) \sin \frac{1}{2}(a-b),$$

$a$  and  $b$  being any angles.

5. Given  $\tan \theta = \frac{m}{n}$ , to find the value of

$$m \cos 2\theta + n \sin 2\theta.$$

6. In a triangle  $ABC$ , given the sides  $a$ ,  $b$ , and  $c$ , respectively, opposite the angles  $A$ ,  $B$ , and  $C$ , as follows:

$$a = 766.3, b = 672, c = 565.05, \text{ to find the angle } A.$$

#### June, 1882.

[State what text-book you have studied on the subject, and to what extent.]

1. Define the different trigonometric functions of an angle.

2. Give the algebraic sign of each function of an angle terminating in each of the four quadrants.

3. Show that  $\sin(\pi + a) = -\sin a$ ; and that  $\cos(2\pi - a) = \cos a$ .

4. Find the formula for  $\tan(a + \beta)$  in terms of  $\tan a$  and  $\tan \beta$ . Find also the formula for  $\tan 2a$  in terms of  $\tan a$ .

5. Given  $2a \tan \theta \sin \theta - 2a \cos \theta + b = 0$ , to find  $\theta$ .

6. Given two sides of a plane triangle 180 and 100, and the angle opposite the former  $127^\circ 33'$ , to find the other parts.

#### September, 1882.

[State what text-book you have studied, and to what extent.]

1. Find the number of degrees in the angle subtended at the centre of a circle whose radius is 10 ft. by an arc 9 in. long.

2. Determine all the functions of the following angles :

$$30^\circ, \frac{\pi}{4}, \frac{5}{8}\pi, 585^\circ.$$

3. Given the functions of any angle to find the functions of half that angle.

4. Given  $\tan \theta = \frac{m}{n}$ , to find the value of  $\sin 2\theta$ .

5. Show that  $2 \tan^{-1} a = \tan^{-1} \frac{2a}{1-a^2}$ .

6. In a plane triangle, given  $a=100$ ,  $c=200$ , and  $B=112^\circ 30'$ , to find the remaining parts.

June, 1883.

1. Explain the circular measure of an angle. Express an angle of 1.5 in degrees.

2. Give the algebraic signs of the trigonometric functions for angles terminating in each of the four quadrants, and the values of the functions of  $0, \frac{\pi}{2}, \pi, \frac{3\pi}{2}$ .

3. State some of the fundamental relations existing between the different functions of the same angle.

4. Find an angle whose tangent is double its sine.

5. Write the different formulae which serve to solve right-angled triangles, and explain their application.

6. Find a formula for expressing  $\sin \frac{1}{2}a$  in terms of  $\cos a$ .

7. If  $a, b$ , and  $c$  are the sides of a triangle, and  $a$  the angle opposite the side  $a$ , show that

$$a^2 = b^2 + c^2 - 2bc \cos a.$$

Also state any application you have made of this formula.

8. In a triangle given  $A=32^\circ$ ,  $a=40$ ,  $b=50$ , to find one solution of the triangle. Is there more than one? If so, how do you recognize the fact?

September, 1883.

1. Express an angle of  $75^\circ$  in radians.
2. Express each of the functions of  $\left(\frac{\pi}{2} + a\right)$  by a function of  $a$ .
3. Form a general expression for all angles which have the same cosine.
4. What must the value of the cosine be in order that the tangent may be  $n$  times the sine?
5. To find a formula for the tangent of the sum of two angles in terms of the tangents of the angles; and from this formula to derive an expression for the tangent of twice an angle in terms of the tangent of the angle.
6. In a triangle ABC, given the angle  $A = 118^\circ 04'$ , and the adjacent sides,  $b = 960$ , and  $c = 1686$ , to find the remaining angles and side of the triangle.



## LATIN.

July, 1880.

## I. Translate as literally as possible : —

a. Quum ea ita sint, tamen, si obsides ab iis sibi dentur, uti ea, quae polliceantur, facturos intelligat, et si *Aeduis* de injuriis, quas ipsis sociisque eorum intulerint, item si Allobrogibus satisfaciant, sese cum iis pacem esse  
5 facturum. Divico respondit: Ita Helvetios a majoribus suis institutos esse, uti obsides accipere, non dare, consuerint; ejus rei populum Romanum esse *testem*.

b. Ibi vadis repertis partem suarum copiarum transducere conati sunt, eo consilio, uti, si possent, castellum,  
10 cui praeerat Quintus Titurius legatus, expugnarent, pontemque interscinderent; si minus potuissent, agros Remorum popularentur, qui magno *nobis usui* ad bellum gerendum erant, commeatuque nostros prohiberent.

c. Impeditis hostibus propter ea, quae ferebant, onera,  
15 subito quabus *portis* eruptionem fieri jubet. Factum est opportunitate loci, hostium inscientia ac defatigatione, virtute militum, et superiorem pugnarum *exercitatione*, ut ne unum quidem nostrorum impetum ferrent ac statim terga verterent.

d. Dum in his locis Caesar *navium* parandarum causa moratur, ex magna parte Morinorum ad eum legati venerunt, qui se de superioris temporis consilio excusarent, quod homines barbari et nostrae *consuetudinis* imperiti bellum populo Romano fecissent, seque ea, quae impe-  
25 rasset, facturos pollicerentur.

e. Britanniae pars interior ab iis incolitur, quos natos in insula ipsi memoria *proditum* dicunt; maritima pars ab iis, qui praedae ac belli *inferendi* causa ex Belgis transierant; qui omnes fere iis nominibus civitatum ap-

- 30 pellantur, quibus orti ex civitatibus eo pervenerunt, et, bello illato, ibi permanserunt atque agros colere coeperunt.

f. Ambiorix copias suas *judicione* non conduxerit, quod proelio dimicandum non existimarit, an tempore  
35 exclusus et repentino equitum adventu prohibitus, quum reliquum *exercitum* subsequi crederet, dubium est; sed certe dimissis per agros nuntiis sibi quemque consulere jussit.

II. 1. Decline *obsides* (1), *majoribus* (5), *loci* (16).

2. Compare *imperiti* (23), *interior* (26), *certe* (37).

3. Write the synopsis, active and passive, of *intelligat* (2).

4. State the mood and tense of the following: *consuerint* (6), *praeerat* (10), *ferrent* (18), *imperasset* (24), *existimarit* (34).

5. Give the principal parts of the following: *polliceantur* (2), *reperitis* (8), *interscinderent* (11), *gerendum* (13), *verterent* (19), *incolitur* (26), *orti* (30), *colere* (31), *existimarit* (34), *exclusus* (35), *crederet* (36), *consulere* (37).

6. State the construction of all italicized words.

7. Define indirect statement (*oratio obliqua*), and quote an example from the above text.

8. Convert into direct statement (*oratio directa*) the example quoted in answer to question seventh.

September, 1880.

I. Translate as literally as possible: —

a. Eadem secreto ab aliis quaerit; reperit esse vera: Ipsum esse Dumnorigem, summa *audacia*, magna apud plebem propter liberalitatem gratia, cupidum rerum novarum: complures annos portoria reliquaue omnia

5 Aeduerum vectigalia parvo *pretio* redempta habere, propterea quod, illo licente, contra liceri audeat nemo.

b. Quum ab his quaereret, quae civitates, quantaque in armis essent et *quid* in bello possent, sic reperiebat: Plerosque Belgas esse ortos ab Germanis, Rhenumque  
10 antiquitus transductos propter loci fertilitatem ibi condisse, Gallosque, qui ea loca incolerent, expulisse.

c. His rebus gestis, quum omnibus de causis Caesar pacatam Galliam existimaret, superatis Belgis, expulsis Germanis, victis in Alpibus Sedunis, atque ita inita  
15 *hieme* in Illyricum profectus esset, quod eas quoque *nationes* adire et regiones cognoscere volebat, subitum bellum in Gallia coortum est.

d. Germanico bello confecto, multis de causis Caesar statuit *sibi* Rhenum esse transeundum; quarum illa fuit  
20 justissima, quod, quum videret Germanos tam facile impelli, ut in Galliam venirent, suis quoque *rebus* eos timere voluit, quum intelligerent et posse et audere populi Romani *exercitum* Rhenum transire.

e. Utuntur aut *aere* aut taleis ferreis ad certum pondus  
25 examinatis pro nummo. Nascitur ibi plumbum album in mediterraneis regionibus, in maritimis *ferrum*, sed ejus *exigua* est copia; aere utuntur importato. Materia cujusque generis, ut in Gallia, est, praeter fagum atque abietem.

f. Ac fuit antea tempus, quum Germanos Galli *virtute* superarent, ultro bella inferrent, propter hominum multitudinem agrique inopiam trans Rhenum colonias mitterent. Itaque ea, quae fertilissima Germaniae sunt, loca circum Hercyniam silvam, Volcae Tectosages, occupave-  
35 runt atque ibi consederunt.

II. 1. Decline *vectigalia* (5), *ea* (11), *hieme* (15).

2. Compare *parvo* (5), *facile* (20), *fertilissima* (33).

3. Write the synopsis, active and passive, of *habere* (5).
4. State the mood and tense of the following: *reperit* (1), *audeat* (6), *videret* (20), *superarent* (31), *inferrent* (31).
5. Give the principal parts of the following: *quaerit* (1), *reperit* (1), *audeat* (6), *incolerent* (11), *coortum* (17), *confecto* (18), *impelli* (20-21), *videret* (20), *intelligerent* (22), *nascitur* (25), *consederunt* (35).
6. State the construction of all italicized words.
7. Define indirect statement (*oratio obliqua*), and quote an example from the above text.
8. Convert into direct statement (*oratio directa*) the example quoted in answer to question seventh.

June, 1881.

I. Translate as literally as possible: —

- a. Ei legationi Ariovistus respondit: Si quid ipsi a Caesare *opus* esset, sese ad eum venturum fuisse; si quid ille se velit, illum ad se venire oportere. Praeterea se neque sine exercitu in eas partes Galliae venire audere,
- 5 quas Caesar possideret, neque exercitum sine magno commeatu atque molimento in unum locum contrahere posse.
- b. Hac re statim Caesar per speculatores cognita, insidias veritus, quod, *qua* de causa discederent, nondum
- 10 perspexerat, exercitum equitatumque *castris* continuit. Prima luce, confirmata re ab exploratoribus, omnem equitatum, qui novissimum agmen moraretur, praemisit.
- c. Erant ejusmodi fere situs oppidorum, ut posita in extremis lingulis promontoriisque, neque *pedibus* aditum
- 15 haberent, quum ex alto *se* aestus incitavisset, quod bis accidit semper horarum viginti quattuor spatio, neque navibus, quod rursus minuenta aestu naves in vadis afflictaerentur.

d. Quod ubi Caesar comperit, omnibus his rebus con-  
 20 fectis, quarum rerum causa transducere exercitum con-  
 stituerat, ut *Germanis* metum injiceret, ut Sigambros  
 ulcisceretur, ut Ubios *obsidione* liberaret, diebus omnino  
 decem et octo trans Rhenum consumptis, satis et ad  
 laudem et ad utilitatem profectum arbitratus, se in Galliam  
 25 recepit pontemque rescidit.

e. Nostri, acriter in eos impetu facto, repulerunt, neque  
 finem *sequendi* fecerunt, quoad *subsidio* confisi equites,  
 quum post se legiones viderent, praecipites hostes egerunt,  
 magnoque eorum numero interfecto, neque sui colligendi  
 30 neque consistendi aut ex essedis desiliendi facultatem  
 dederunt.

f. At in ejusmodi difficultatibus, quantum diligentia  
 provideri poterat, providebatur, ut potius in nocendo  
 aliquid praetermitteretur, etsi omnium animi ad *ulciscen-*  
 35 *dum* ardebant, quam cum aliquo militum detrimento  
*noceretur*.

II. 1. Decline *situs* (13), *pedibus* (14), *vadis* (17).

2. Compare *prima* (11), *acriter* (26), *potius* (33).

3. Write the synopsis, active and passive, of *perspex-*  
*erat* (10).

4. State the mood and tense of the following: *velit* (3),  
*moraretur* (12), *accidit* (16), *viderent* (28), *dederunt* (31).

5. Give the principal parts of the following: *respon-*  
*dit* (1), *audere* (4), *contrahere* (6), *veritus* (9), *continuit* (10),  
*moraretur* (12), *posita* (13), *comperit* (19), *ulcisceretur* (22),  
*recepit* (25), *rescidit* (25), *confisi* (27).

6. State the construction of all italicized words.

7. Define indirect statement (*oratio obliqua*), and quote  
 an example from the above text.

8. Convert into direct statement (*oratio directa*) the  
 example quoted in answer to question seventh.

September, 1881.

## I. Translate as literally as possible : —

a. Eodem die ab exploratoribus certior factus hostes sub monte consedissee millia *passuum* ab ipsius castris octo, qualis esset natura montis et qualis in circuitu ascensus, qui cognoscerent, misit. Renuntiatum est, 5 *facilem* esse. De tertia vigilia Titum Labienum, legatum pro praetore, cum duabus legionibus et iis ducibus, qui iter cognoverant, summum jugum montis ascendere jubet.

b. Hoc proelio facto et prope ad internecionem gente ac nomine Nerviorum redacto, majores *natu*, quos una 10 cum pueris mulieribusque in *aestuaria* ac paludes collectos dixeramus, hac pugna nuntiata, quum victoribus nihil impeditum, victis nihil tutum arbitrarentur, omnium, qui supererant, consensu legatos ad Caesarem miserunt seque ei dederunt.

15 c. Hostes undique circumventi, desperatis omnibus rebus, se per munitiones dejicere et *fuga* salutem petere intenderunt. Quos equitatus apertissimis campis consecratus, ex millium quinquaginta numero, quae ex Aquitania Cantabrisque convenisse constabat, vix quarta parte 20 relicta, multa *nocte* se in castra recepit.

d. Reliquum exercitum Quinto Titurio Sabino et Lucio Aurunculeio Cottae, *legatis*, in Menapios atque in eos pagos Morinorum, ab quibus ad eum legati non venerant, *ducendum* dedit. Publium Sulpicium Rufum legatum, 25 cum eo praesidio quod satis esse arbitrabatur, portum tenere jussit.

e. Equites hostium essedariiue acriter *proelio* cum equitatu nostro in itinere conflixerunt, ita tamen ut nostri omnibus *partibus* superiores fuerint atque eos in silvas collesque compulerint; sed, compluribus interfectis, cupidius 30 insecuti nonnullos ex suis amiserunt.

*f.* Cum his esse hospitium Ambiorigi sciebat; item per Treviros venisse *Germanis* in amicitiam cognoverat. Haec prius *illi* detrahenda auxilia existimabat, quam ipsum  
 35 bello lacesseret; ne desperata salute aut se in Menapios abderet, aut cum Transrhenanis congregari cogeretur.

II. 1. Decline *millia* (2), *ducibus* (6), *jugum* (7).

2. Compare *summum* (7), *tutum* (12), *cupidius* (30).

3. Write the synopsis, active and passive, of *misit* (4).

4. State the mood and tense of the following: *superant* (13), *intenderunt* (17), *recepit* (20), *tenere* (26), *compulerint* (30).

5. Give the principal parts of the following: *ascendere* (7), *redacto* (9), *dediderunt* (14), *deicere* (16), *petere* (16), *relicta* (20), *confluxerunt* (28), *compulerint* (30), *detrahenda* (34), *lacesseret* (35), *abderet* (36), *congregari* (36).

6. State the construction of all italicized words.

7. Define indirect statement (*oratio obliqua*), and quote an example from the above text.

8. Convert into direct statement (*oratio directa*) the example quoted in answer to question seventh.

June, 1882.

I. Translate as literally as possible: —

*a.* Relinquebatur una per Sequānos via, qua, Sequānis invitis, propter angustias ire non poterant. *His* quum suā sponte persuadere non possent, legatos ad Dumnorīgem Aeduum mittunt, ut eo deprecatore a Sequānis  
 5 impetrarent.

*b.* Nam quod ad hostes appropinquabat, *consuetudine* suā Caesar sex legiones expeditas ducebat: post eas

totius exercitus impedimenta collocarat: inde duae legiones, quae proxime conscriptae erant, totum agmen  
10 clauderant *praesidoque impedimentis* erant.

c. Erant hae difficultates *belli gerendi*, quas supra ostendimus, sed multa Caesarem tamen ad id bellum incitabant: injuriae retentorum equitum Romanorum, rebellio facta post deditionem, defectio datis obsidibus,  
15 tot civitatum conjuratio, imprimis, ne hac parte neglecta, reliquae nationes sibi idem licere arbitrarentur.

d. Diebus decem, quibus materia coepta erat comporari, omni opere effecto, exercitus transducitur. Caesar ad utramque partem pontis firmo praesidio relicto, in fines  
20 Sigambrorum contendit. Interim a compluribus civitatibus ad eum legati veniunt, *quibus* pacem atque amicitiam petentibus liberaliter respondit obsidesque ad se adduci jubet.

e. Tunc duces principesque Nerviorum, qui aliquem  
25 sermonis aditum causamque amicitiae cum Cicerone habebant, colloqui sese velle dicunt. Facta potestate, eadem, quae Ambiorix cum Titurio egerat, commemorant: Omnem esse in armis Galliam, Germanos *Rhenum* transisse, Caesaris reliquorumque hiberna oppugnari.

f. In omni Galliâ eorum hominum, qui aliquo sunt numero atque honore, genera sunt duo; nam plebes paene servorum habetur loco, quae nihil audet per se, nullo adhibetur consilio. Plerique, quum aut *aere alieno* aut magnitudine tributorum aut injuriâ potentiorum  
35 premuntur, sese in servitutem dicant nobilibus: in hos eadem omnia sunt jura, *quae dominis* in servos.

II. 1. Decline *una* (1), *Sequanis* (1), *deprecatore* (4).

2. Compare *proxime* (9), *multa* (12), *firmiter* (19).

3. Write the synopsis, active and passive, of *relinquebatur* (1).



4. State the mood and tense of the following: *impetrant* (5), *collocarat* (8), *ostendimus* (12), *contendit* (20), *egerat* (27).

5. Give the principal parts of the following: *persuadere* (3), *mittunt* (4), *claudabant* (10), *retentorum* (13), *neglecta* (15), *respondit* (22), *colloqui* (26), *velle* (26), *audet* (32), *adhibetur* (33), *premuntur* (35), *dicant* (35).

6. State the construction of all italicized words.

7. Quote (in full) from the above text an example of indirect statement.

8. Change into direct statement the example quoted in answer to question seventh.

### September, 1882.

#### I. Translate as literally as possible:—

a. Ob eas causas ei *munitioni*, quam fecerat, Titum Labiēnum legatum praefecit; ipse in Italiam magnis *itineribus* contendit duasque ibi legiones conscribit, et tres, quae circum Aquilēiam hiemabant, ex hibernis  
5 educit; et qua proximum iter in ulteriorem Galliam per Alpes erat, cum his quinque legionibus ire contendit.

b. Quum se illi identidem in silvas ad suos reciperent ac rursus ex silvā in nostros impetum facerent, neque nostri longius, quam quem ad finem porrecta loca aperta  
10 pertinebant, *cedentes* insequi auderent; interim legiones sex, quae primae venerant, *opere* dimenso castra munire coeperunt.

c. Itaque Titum Labiēnum legatum in Treviros, qui proximi flumini Rheno sunt, cum equitatu mittit. *Huic*  
15 mandat, Remos reliquosque Belgas adeat atque in officio contineat, Germānosque, qui *auxilio* a Belgis arcessiti dicebantur, si per vim *navibus* flumen transire conentur, prohibeat.

d. Ipse cum omnibus copiis in Morinos proficiscitur, 20 quod inde erat brevissimus in Britanniam trajectus. Huc naves undique ex finitimis regionibus et, quam superiore aestate ad Veneticum bellum *effecerat*, classem jubet convenire.

e. Cicero ad haec unum modo respondit: Non esse 25 *consuetudinem* populi Romani accipere ab hoste armato conditionem: si ab armis discedere velint, *se adiutore* utantur legatosque ad Caesarem mittant: sperare pro ejus justitiâ, quae petierint, *impetraturos*.

f. Nam fere de omnibus controversiis publicis privatisque constituunt; et si quod est admissum facinus, si caedes facta, si de haereditate, de finibus controversia est, iidem decernunt; praemia poenasque constituunt. Si qui aut privatus aut populus eorum decreto non stetit, *sacrificiis* interdicunt. Haec poena apud eos est gravis- 35 *sima*.

II. 1. Decline *munitioni* (1), *hibernis* (4), *ei* (1).

2. Compare *ulteriorem* (5), *primae* (11), *superiore* (21).

3. Write the synopsis, active and passive, of *conscribit* (3).

4. State the mood and tense of the following: *contendit* (6), *reciperent* (7), *auderent* (10), *conentur* (17), *velint* (26).

5. Give the principal parts of the following: *praefecit* (2), *contendit* (6), *porrecta* (9), *auderent* (10), *dimenso* (11), *conentur* (17), *jubet* (22), *petierint* (28), *constituunt* (30), *decernunt* (32), *stetit* (33), *interdicunt* (34).

6. State the construction of all italicized words.

7. Quote (in full) from the above text an example of indirect statement.

8. Change into direct statement the example quoted in answer to question seventh.

June, 1883.

## I. Translate as literally as possible : —

a. Ubi de ejus adventu Helvetii certiores facti sunt, legatos ad eum mittunt, nobilissimos *civitatis*, cujus legationis Nameius et Verudoctius principem locum obtinebant, qui dicerent, *sibi* esse in animo sine ullo maleficio  
5 iter per provinciam facere, propterea quod aliud iter haberent nullum.

b. Temporis tanta fuit exiguitas hostiumque tam paratus ad dimicandum animus, ut non modo ad *insignia* accommodanda, sed etiam ad galeas induendas scutisque tegi-  
10 menta detrudenda tempus defuerit. Quam quisque ab opere in partem *casu* devenit, quaeque prima signa conspexit, ad haec constitit, ne in quaerendis suis pugnandi tempus dimitteret.

c. Hac re perspecta, Crassus, quum sua cunctatione  
15 atque opinione timoris hostes nostros milites alacriores ad pugnandum effecissent, atque omnium voces audirentur, *expectari* diutius non *oportere*, quin ad castra iretur, cohortatus suos, omnibus cupientibus, ad hostium castra contendit.

20 d. Genus hoc est ex essedis pugnae : primo per omnes partes perequitant et tela conjiciunt, atque ipso *terrore* equorum et strepitu rotarum ordines plerumque perturbant, et quum se inter equitum turmas insinuaverunt, ex essedis desiliunt et *pedibus* proeliantur.

25 e. Qua re animadversa, Ambiorix pronuntiari jubet, ut procul tela conjiciant, neu propius accedant, et quam in partem Romani impetum fecerint, cedant (*levitate armorum* et quotidiana exercitatione *nihil* *vis* noceri posse), rursum se ad signa recipientes insequantur.

30 *f.* Erat aeger in praesidio relictus Publius Sextius  
 Baculus, qui primum pilum ad Caesarem duxerat, cujus  
 mentionem superioribus proeliis fecimus, ac diem jam  
 quintum *cibo* caruerat. Hic *diffusus* suae atque omni-  
 35 *um* salutis *inermis* ex tabernaculo prodit: videt imminere hos-  
 tes atque in summo esse rem discrimine: capit arma a  
 proximis atque in porta consistit.

- II. 1. Decline *adventu* (1), *principem* (3), *ullo* (4).  
 2. Compare *certiores* (1), *nobilissimos* (2), *prima* (11).  
 3. Write the synopsis, active and passive, of *mittunt* (2).  
 4. Parse in full each word in the last two lines of pas-  
 sage *b*.  
 5. Give the principal parts of the following: *obtinebant*  
 (3), *detrudenda* (10), *effecissent* (16), *oportere* (17), *iretur*  
 (17), *contendit* (19), *conjiciunt* (21), *desiliunt* (24), *cedant*  
 (27), *noceri* (28), *relictus* (30), *diffusus* (33).  
 6. State the construction of all italicized words.  
 7. Quote (in full) from the above text an example of  
 indirect statement.  
 8. Change into direct statement the example quoted in  
 answer to question seventh.

September, 1883.

I. Translate as literally as possible: —

*a.* Is ita cum Caesare agit: Si pacem populus Romanus  
 cum Helvetiis faceret, in eam partem ituros atque ibi  
 futuros Helvetios, ubi eos Caesar constituisset atque esse

voluisset; *sin bello* persequi perseveraret, reminisceretur  
5 et veteris *incommodi* populi Romani et pristinae virtutis  
Helvetiorum.

b. Caesar quum septimam legionem, quae juxta consti-  
terat, item urgeri ab hoste vidisset, tribunos militum  
monuit, ut paulatim sese legiones conjungerent et con-  
10 versa signa in hostes inferrent. Quo facto, quum *alii*  
*alii* subsidium ferrent, neque timerent ne aversi ab hoste  
circumvenirentur, audacius resistere ac fortius pugnare  
coeperunt.

c. Una erat magno *usui* res praeparata a nostris, falces  
15 praeacutae, insertae affixaeque *longuriis*, non absimili  
*forma muralium falcium*. His quum funes, qui antennas  
ad malos destinabant, comprehensi adductique erant,  
navigio remis incitato prae rumpebantur.

d. Caesar questus, quod, quum ultro in continentem  
20 legatis missis pacem ab se petissent, bellum sine causa  
intulissent, *ignoscere imprudentiae* dixit obsidesque im-  
peravit; quorum illi partem statim dederunt, partem ex  
longinquiore locis arcessitam paucis diebus sese datu-  
ros dixerunt.

25 e. His circumventis, magna manu Eburones, Nervii,  
Aduatuci atque horum omnium socii et clientes legionem  
oppugnare incipiunt: nostri celeriter ad arma concurrunt,  
vallum conscendunt. Aegre is dies sustentatur, quod  
omnem spem hostes in celeritate ponebant atque hanc  
30 adepti victoriam in perpetuum se fore *victores* confidebant.

f. Multum quum in omnibus rebus, tum in re militari  
potest fortuna. Nam sicut magno accidit casu, ut in  
ipsum incautum etiam atque imparatum incideret, priusque  
ejus adventus ab hominibus videretur, quam fama aut

35 nuntius afferretur; sic magnae fuit *fortunae* omni militari *instrumento*, quod circum se habebat, erepto, rhedis equisque comprehensis, ipsum effugere mortem.

- II. 1. Decline *bello* (4), *veteris* (5), *alius* (10).
2. Compare *veteris* (5), *audacius* (12), *fortius* (12).
3. Write the synopsis, active and passive, of *agit* (1).
4. Parse in full each word in the last two lines of passage *d*.
5. Give the principal parts of the following: *voluisset* (4), *persequi* (4), *reminisceretur* (4), *inferrent* (10), *aversi* (11), *insertae* (15), *comprehensi* (17), *praerumpebantur* (18), *questus* (19), *petissent* (20), *adepti* (30), *erepto* (36).
6. State the construction of all italicized words.
7. Quote (in full) from the above text an illustration of indirect statement.
8. Convert into direct statement the example quoted in answer to question seventh.

## LATIN EXERCISES.

July, 1880.

1. The Helvetians<sup>1</sup> move<sup>2</sup> (their) camp<sup>3</sup> from<sup>4</sup> this<sup>5</sup> place<sup>6</sup>.
2. Cæsar does<sup>7</sup> the same<sup>8</sup> (thing).
3. Cæsar sends-forward<sup>9</sup> all<sup>10</sup> (his) cavalry<sup>11</sup>.
4. The cavalry was sent-forward by<sup>12</sup> Cæsar.
5. Cæsar will move (his) camp and<sup>13</sup> send-forward all (his) cavalry.
6. The Helvetians having moved (their) camp<sup>14</sup>, Cæsar did the same (thing).
7. Cæsar said<sup>15</sup> he would move his camp.
8. (Re-write sentence seventh so as to illustrate direct statement.)
9. The Helvetians say: "The Roman<sup>16</sup> people<sup>17</sup> is a witness<sup>18</sup>."
10. (Re-write sentence ninth so as to illustrate indirect statement.)

<sup>1</sup> Helvetius.<sup>7</sup> facere.<sup>18</sup> que.<sup>2</sup> movere.<sup>8</sup> idem.<sup>14</sup> use subjunctive with *quum*.<sup>3</sup> castra.<sup>9</sup> præmittere.<sup>15</sup> dicere.<sup>4</sup> ex.<sup>10</sup> omnis.<sup>16</sup> Romanus.<sup>5</sup> is.<sup>11</sup> equitatus.<sup>17</sup> populus.<sup>6</sup> locus.<sup>12</sup> a.<sup>18</sup> testis.

September, 1880.

1. Labienus<sup>1</sup> fortifies<sup>2</sup> the camp<sup>3</sup>.
2. The camp is fortified by<sup>4</sup> Labienus.
3. Labienus set-out<sup>5</sup> against<sup>6</sup> the enemy<sup>7</sup>.
4. Labienus ascertained<sup>8</sup> the design<sup>9</sup> of the enemy (plural).
5. Labienus, having ascertained<sup>10</sup> the design of the enemy (plural), fortifies (his) camp.

6. Labienus set-out with<sup>10</sup> five<sup>11</sup> cohorts<sup>12</sup>.

7. Labienus said<sup>13</sup> he would set-out with five cohorts.

8. (Re-write sentence seventh so as to illustrate direct statement.)

9. Labienus says: "I will move<sup>14</sup> the camp at day-break<sup>15</sup>."

10. (Re-write sentence ninth so as to illustrate indirect statement.)

<sup>1</sup> Labienus.	<sup>7</sup> hostis.	<sup>12</sup> cohors.
<sup>2</sup> communire.	<sup>8</sup> cognoscere.	<sup>13</sup> dicere.
<sup>3</sup> castra.	<sup>9</sup> consilium.	<sup>14</sup> movere.
<sup>4</sup> a.	<sup>10</sup> cum.	<sup>15</sup> prima lux.
<sup>5</sup> proficisci.	<sup>11</sup> quinque.	<sup>16</sup> use <i>ablative absolute</i> .
<sup>6</sup> contra.		

### June, 1881.

1. The horsemen<sup>1</sup> of Ariovistus hurl<sup>2</sup> stones<sup>3</sup> and<sup>4</sup> darts<sup>5</sup> at<sup>6</sup> the Romans.

2. Stones and darts are hurled at the Romans by the horsemen of Ariovistus.

3. It was reported<sup>7</sup> to Cæsar (that) the horsemen of Ariovistus were hurling stones and darts at the Romans.

4. (Re-write sentence third so as to illustrate direct statement.)

5. It was reported to Cæsar (that) the horsemen of Ariovistus had hurled stones and javelins at the Romans.

6. (Re-write sentence fifth so as to illustrate direct statement.)

7. When<sup>8</sup> it had been reported to Cæsar (that) the horsemen of Ariovistus were hurling stones and javelins at the Romans, he made<sup>9</sup> an end<sup>10</sup> of speaking<sup>11</sup>.

<sup>1</sup> eques.	<sup>5</sup> telum.	<sup>9</sup> facere.
<sup>2</sup> conicere.	<sup>6</sup> in.	<sup>10</sup> finis.
<sup>3</sup> lapis.	<sup>7</sup> nuntiare.	<sup>11</sup> loqui.
<sup>4</sup> que.	<sup>8</sup> quum, with subjunctive.	



## September, 1861.

1. The Ubii<sup>1</sup> kill<sup>2</sup> a great<sup>3</sup> number<sup>4</sup> of the Suevi<sup>5</sup>.
2. A great number of the Suevi are killed by the Ubii.
3. The Ubii pursued<sup>6</sup> the terrified<sup>7</sup> Suevi.
4. The terrified Suevi were pursued by the Ubii.
5. The Ubii, having pursued the terrified Suevi, killed a great number of them.
6. It was reported<sup>8</sup> to Cæsar (that) the Ubii had killed a great number of the Suevi.
7. (Re-write sentence sixth so as to illustrate direct statement.)
8. It was reported to Cæsar (that) the Ubii were pursuing the Suevi.
9. (Re-write sentence eighth so as to illustrate direct statement.)

<sup>1</sup> Ubii.<sup>2</sup> occidere.<sup>3</sup> magnus.<sup>4</sup> numerus.<sup>5</sup> Suevi.<sup>6</sup> insequi.<sup>7</sup> perterritus.<sup>8</sup> nuntiare.

## June, 1882.

1. The Helvetians<sup>1</sup> send<sup>2</sup> ambassadors<sup>3</sup> to<sup>4</sup> Dumnorix<sup>5</sup>.
2. Ambassadors are sent to Dumnorix by the Helvetians.
3. The Helvetians were not<sup>6</sup> able<sup>7</sup> to persuade<sup>8</sup> the Sequani<sup>9</sup>.
4. The Helvetians say<sup>10</sup> (that) they are not able to persuade the Sequani.
5. (Re-write sentence fourth in such a manner as to illustrate direct statement.)
6. The Helvetians said: "We are unable to persuade the Sequani."

7. (Re-write sentence sixth in such a manner as to illustrate indirect statement.)

- |              |             |                                |
|--------------|-------------|--------------------------------|
| 1 Helvetius. | 5 Dumnorix. | 8 persuadere (governs dative). |
| 2 mittere.   | 6 non.      | 9 Sequanus.                    |
| 3 legatus.   | 7 posse.    | 10 dicere.                     |
| 4 ad.        |             |                                |

### September, 1882.

1. Cæsar leads-forth<sup>1</sup> three<sup>2</sup> legions<sup>3</sup> from<sup>4</sup> winter-quarters<sup>5</sup>.
2. Three legions are led-forth from winter-quarters by Cæsar.
3. Cæsar said<sup>6</sup> he would lead-forth three legions from winter-quarters.
4. (Re-write sentence third in such a manner as to illustrate direct statement.)
5. Cæsar said: "I have led-forth three legions from winter-quarters."
6. (Re-write sentence fifth in such a manner as to illustrate indirect statement.)
7. Cæsar, having-hastened<sup>7</sup> into<sup>8</sup> Italy<sup>9</sup>, led forth three legions from winter-quarters.

- |            |            |  |
|------------|------------|--|
| 1 educere. | 4 ex.      | 7 contendere (use pluperf. subj. with <i>quum</i> ). |
| 2 tres.    | 5 hiberna. | 8 in.  |
| 3 legio.   | 6 dicere.  | 9 Italia.  |

### June, 1883.

1. The envoys<sup>1</sup> come<sup>2</sup> to<sup>3</sup> Cæsar.<sup>4</sup>
2. The envoys will come to Cæsar.
3. Cæsar sends back<sup>5</sup> the envoys immediately.<sup>6</sup>
4. The envoys were immediately sent back by Cæsar.
5. The envoys, who<sup>7</sup> came to Cæsar, were immediately sent back.

6. If<sup>8</sup> the envoys had come to Cæsar, they would have been immediately sent back.

7. Cæsar forms<sup>9</sup> the design<sup>10</sup> of sending back the envoys. (Use gerundive construction.)

8. (Rewrite sentence seventh, and use gerund instead of gerundive.)

9. It is said, "Cæsar has sent back the envoys."

10. (Rewrite sentence ninth so as to employ indirect statement.)

<sup>1</sup> legatus.

<sup>8</sup> ad.

<sup>5</sup> remittere.

<sup>7</sup> qui.

<sup>9</sup> capere.

<sup>2</sup> venire.

<sup>4</sup> Cæsar.

<sup>6</sup> statim.

<sup>8</sup> si.

<sup>10</sup> consilium.

#### September, 1883.

1. The Helvetians<sup>1</sup> burn<sup>2</sup> four hundred<sup>3</sup> villages.<sup>4</sup>

2. Four hundred villages are burned by the Helvetians.

3. The Helvetians will burn four hundred villages.

4. Four hundred villages will be burned by the Helvetians.

5. Cæsar<sup>5</sup> says<sup>6</sup> (that) the Helvetians have burned four hundred villages.

6. (Rewrite sentence sixth, and substitute direct statement.)

7. The Helvetians formed<sup>7</sup> the plan<sup>8</sup> of burning four hundred villages. (Use the gerundive construction.)

8. (Rewrite sentence seventh, and use gerund instead of gerundive.)

9. The Helvetians say they will burn four hundred villages.

10. (Rewrite sentence ninth so as to illustrate direct statement.)

<sup>1</sup> Helvetius.

<sup>3</sup> quadringenti.

<sup>5</sup> Cæsar.

<sup>7</sup> capere.

<sup>2</sup> incendere.

<sup>4</sup> vicus.

<sup>6</sup> dicere.

<sup>8</sup> consilium.

## HISTORY OF THE UNITED STATES.

July, 1880.

1. What territory has the United States acquired by purchase? by conquest? by annexation?
2. State the causes of (1) the French and Indian War; (2) the Revolutionary War; (3) the War of 1812.
3. Arrange the following events in the order in which they occurred, with their dates: Admission of California to the Union, assembling of the first Continental Congress, acquisition of Florida, second election of Monroe, opening of the Erie Canal, capture of Atlanta, death of Daniel Webster.
4. What was the Wilmot Proviso?
5. What Vice-Presidents were afterward elected Presidents?
6. Give the names of the opposing political parties in 1800; in 1840; in 1860.

September, 1880.

1. What territory was granted by James I. to the London Company? to the Plymouth Company?
2. Describe the settlement of Virginia.
3. Arrange the following events in the order in which they occurred, with their dates: Surrender of Cornwallis, the admission of West Virginia to the Union, the Whiskey Rebellion, the negotiation of Perry's treaty with Japan, the adoption of the Constitution.
4. When and where was the Confederate Government formed?
5. What was the Compromise of 1850?
6. What President was impeached? What Presidents were elected by the Federalist party?

**July, 1881.**

1. When and where did the Spaniards make their first permanent settlement in North America? the English? the French?

2. State the causes and the results of the French and Indian War.

3. Arrange the following events in the order in which they occurred, with their dates : Election of John Adams, settlement of Georgia, battle of Gettysburg, introduction of slavery, assembling of the second Continental Congress, opening of the Pacific Railroad, annexation of Texas.

4. Sketch the career of Benjamin Franklin ; of Abraham Lincoln.

5. What was the Fugitive Slave Law?

6. Who was President in 1803? in 1843? in 1873?

**September, 1881.**

1. Sketch the settlement founded by Roger Williams ; by James Oglethorpe.

2. How were the Colonies governed before the Revolution?

3. Arrange the following events in the order in which they occurred, with their dates : Impeachment of Andrew Johnson, surrender of Burgoyne, introduction of the Telegraph, Lincoln's Emancipation Proclamation, battle of New Orleans, purchase of Louisiana, death of Washington.

4. Give the names of the opposing political parties in 1800 ; in 1868.

5. When was the Constitution adopted?

6. Sketch the administration of Monroe ; Fillmore.

**June, 1882.**

1. Give in chronological order the following dates : Settlement of Georgia, Bacon's Rebellion, foundation of St. Augustine, battle of Germantown, admission of Kentucky, secession of South Carolina.
2. Describe the settlement of Rhode Island.
3. What changes were made in the French possessions in America by the Treaty of Paris?
4. When did the first Continental Congress meet, and what did it do?
5. What was the Missouri Compromise?
6. Who were the presidential candidates in 1860?

**September, 1882.**

1. Give in chronological order the following dates : Battle of Plattsburg, foundation of Rhode Island Colony, New England Confederation, discovery of the Hudson, admission of Missouri.
2. Describe the Settlement of Georgia.
3. When and how did the United States acquire Louisiana and Florida?
4. What were the patroons?
5. What is the Monroe doctrine?
6. When and by what States was the Southern Confederacy formed?

**June, 1883.**

1. Give in chronological order the following dates: La Salle's exploration of the Mississippi; Battle of the Brandywine; presidencies of John Quincy Adams, Van Buren, Taylor; King Philip's War; Frobisher's first voyage; Settlement of Jamestown.

2. Describe the settlement of New York, and explain the origin of its name.

3. Show the difference between royal, proprietary, and charter colonies.

4. Give, with their dates, the principal events that led to the revolt of the colonies from the passage of the Stamp Act to the battle of Lexington.

5. What were the Virginia and Kentucky resolutions, and by what were they occasioned?

6. State the causes and the general results of the Mexican War.

**September, 1883.**

1. Give in chronological order the following dates: Battle of Lundy's Lane; settlement of Maryland; invasion of Mexico; trials for Witchcraft at Salem; presidencies of Polk, Buchanan, Jackson; emancipation of the slaves.

2. Give an account of the foundation of the Connecticut and New Haven Colonies.

3. When, for what purpose, and on what terms was the New England Confederation formed?

4. Give the date, causes, and results of the French and Indian War.

5. When was the treaty of Ghent made, and what were its provisions?

6. Give an account of the compromise of 1850, and the questions which it was intended to settle.

**GEOGRAPHY.****July, 1880.**

1. Bound the State of Mississippi; name its larger cities, and tell how they are situated.
2. Where is the Cape of Good Hope; Cape May; Cape St. Lucas; Cape Race?
3. What countries of America border on the Pacific Ocean?
4. Where does the River Rhine rise, run, and empty, and what countries does it touch?
5. What countries of Europe touch the Mediterranean Sea?
6. Where are the following cities: Melbourne, Milwaukee, Havre, Valparaiso, Cairo?

**September, 1880.**

1. Bound the State of Virginia; what are some of its larger cities, and how are they situated? and what are some of the principal rivers in it or on its borders?
2. What States (of the U.S.) border on the Gulf of Mexico? name them in their order, beginning with Texas.
3. Where does the Missouri River rise? describe the direction of its course; what States and Territories does it pass through or touch?
4. Where are the following European cities, and how are they situated: Bremen, Venice, Cologne, Havre, Hamburgh?
5. Where are the Aleutian Islands? the Azores? the Bermudas? the Philippines? the Bahamas?
6. Bound British India. Give the names of some of its principal rivers, mountains, and cities, and tell how each is situated.



July, 1881.

1. Bound the State of Tennessee; name two cities in the State, and tell how and where they are situated.

2. What States of the United States touch Lake Erie? what large cities are situated on it, and in what States are they?

3. Where are the Cascade Mountains? what river or rivers break through them? name some peaks in them; in what States or Territories are they?

4. What is the Torrid Zone? about how many English miles wide is it? name three cities in it, and tell where they are situated.

5. Where does the River Rhine rise? what direction does it run? where does it empty, and what countries does it touch?

6. Where are the following cities: Baltimore, Singapore, Havana, Manila, Detroit?

September, 1881.

1. Bound the State of Missouri; name its largest city, and tell how it is situated.

2. What States and Territories of the United States touch British America or the Great Lakes through which the boundary runs (name them in their order, beginning with Maine, and passing west)?

3. Describe the Russian Empire, its position, its capital, its principal rivers.

4. Where does the River Orinoco rise? what is its course? where does it empty, and what countries does it touch?

5. Where are the following cities: Glasgow, Bombay, Valparaiso, Rochester, Bremen?

6. What countries surround the Mediterranean Sea, and where is each one located?

**June, 1882.**

1. Bound the State of Ohio ; name two cities in it, and tell how they are situated.

2. Where does the Rio Grande River rise? where does it run and empty, and what States and Territories does it touch?

3. Where is Hindoostan? name two rivers in it, and where they rise, which direction they run, and where they empty ; name two cities in it, and tell how they are situated.

4. Bound Spain ; what is its capital? name two chains of mountains in it, and tell their situation.

5. Where are the following islands : Cyprus, Ceylon, Teneriffe, Trinidad, and Shetland?

6. How wide is the North Temperate Zone in English miles?

**September, 1882.**

1. Bound the State of Georgia ; give the names of two cities in it ; of two rivers in it ; and what mountains are in it.

2. Where are the following cities : Buffalo, Denver, Milwaukee, Memphis, Louisville, Atlanta?

3. Give the names of three seaports in South America ; tell what country each one is in, and how each is situated.

4. How is the Black Sea bounded? what waters are connected with it? name two rivers that empty into it, and tell where they flow from.

5. Bound Morocco, and describe its position.

6. Where is Lake Winnipeg? what river runs into it from the United States? what is its outlet, and where does it empty?

**June, 1883.**

1. Bound the State of Colorado ; give the names of two rivers in it, and tell where they rise, run, and empty ; give the name of one city in it, and tell where it is situated.

2. If we travel due south from Lake Michigan to the Gulf of Mexico, what States would we touch ?

3. Bound France ; give the names of two rivers in it, and tell where they rise, run, and empty ; give the names of two cities in it, and tell where they are situated.

4. Where are the following cities : Santiago, Salem, Singapore, Sacramento, Sydney, Savannah ?

5. What States and Provinces touch Lake Erie ? Give the names of three rivers that empty into it, and tell where they come from.

6. Give the names of four seaports in Asia, tell what countries they are in, and how they are situated.

**September, 1883.**

1. Bound the State of Michigan, give the names of two cities in it, and tell where they are situated.

2. If we travel due west from North Carolina to the Pacific Coast, what States and Territories should we touch ?

3. Bound Russia ; what is its capital, and where is it situated ; give the name of one other city in Russia, and tell where it is situated.

4. Where are the following cities : Manchester, Manila, Marseilles, Madrid, Memphis, Minneapolis ?

5. What countries of Africa touch the Atlantic Ocean ? Give their names in their order from north to south.

6. Give the names of four seaports in South America, tell what countries they are in, and how they are situated.

## ENGLISH GRAMMAR.

July, 1880.

1. Parse the words in the following sentences : —
  - (a) Many were present who had no desire to change.
  - (b) The wages of sin is death.
2. Name the parts of speech, with an illustrative example of each one.
3. Inflect throughout the pronouns of the first and second persons.
4. Give the principal parts of the verbs *lie*, *lay*, *draw*, *ride*, *thrive*, *set*, *sit*, and *go*.

June, 1881.

1. Mention the various classes of pronouns, and give the names of the pronouns belonging to each class.
2. How many conjugations of the verb are there, and how are they distinguished?
3. Parse the following sentence : —  
 The friends, upon whom he had once relied, were now become his bitterest enemies ; in one alone had he not been disappointed.

June, 1882.

1. Define *noun* and *verb*.
2. Name the relative pronouns. State in reference to what each is used.
3. Give examples of three verbs with their principal parts from each one of the two English conjugations, — the old (or strong), and the new (or weak).
4. Parse the following : —  
 I here declare those whom I did accuse  
 Are innocent. 'Tis I alone am guilty.

June, 1883.

1. Define the *subject* and the *predicate* of a sentence.
2. Give the two methods of comparing the adjective.
3. State the distinction existing between the old (or strong) and the new (or weak) conjugation of the verb, and give three examples of verbs of each conjugation.
4. Parse the words in the following sentence :

He, by whom the sword of the law is borne, is himself the law's servant, and not its master.



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